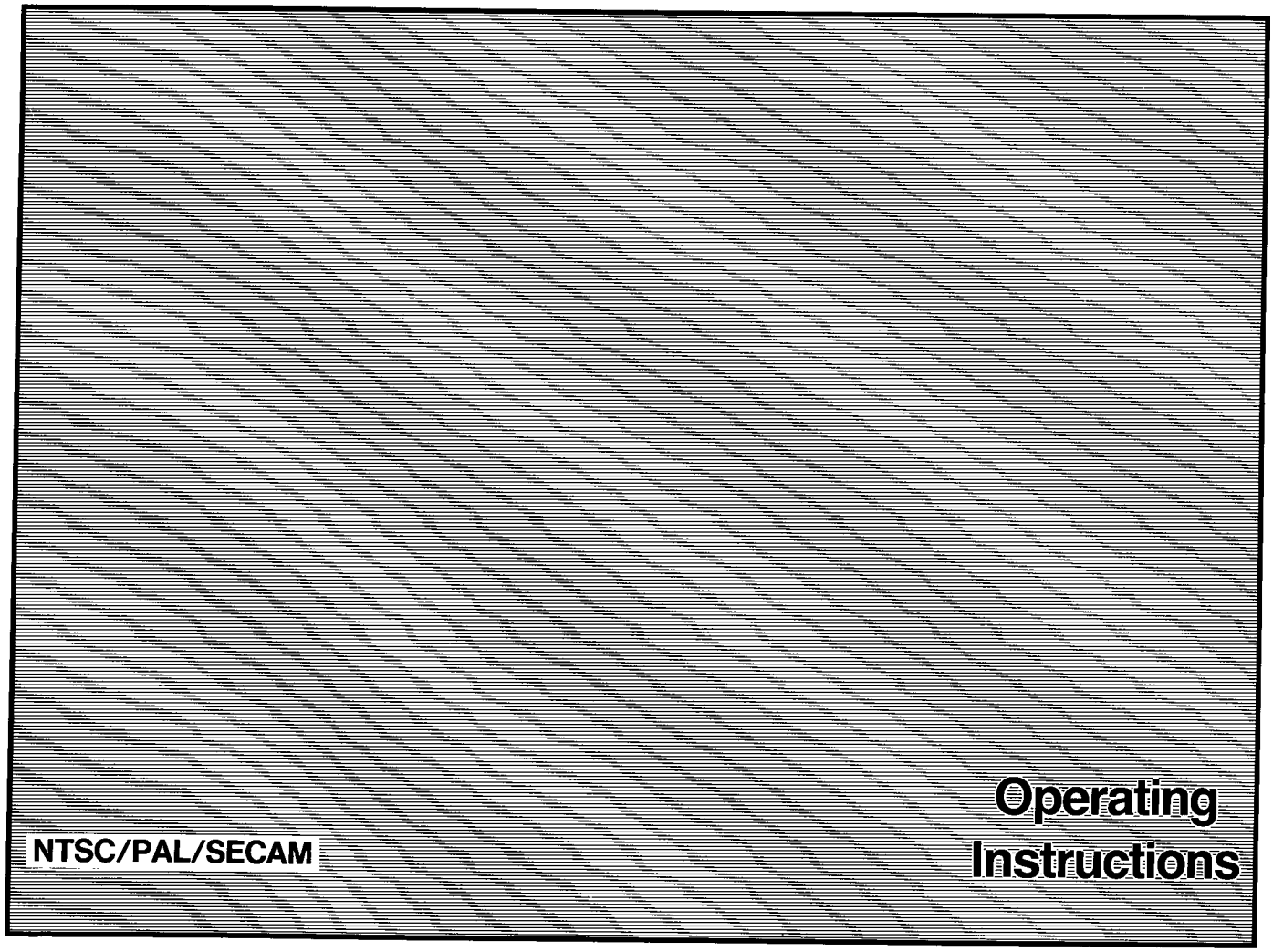
PIONEER®

The Art of Entertainment

PROJECTION MONITOR RECEIVER

SD-T4000



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Thank you for purchasing the PIONEER Projection Colour Television.
If you have not read the precautionary instructions enclosed with these operating instructions, please do so before proceeding.
After learning how to operate the Projection TV be sure to keep this manual handy for future reference.

While the official name of the product is the "PROJECTION MONITOR RECEIVER", for the sake of brevity the text refers to it as the "Projection TV".

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OPERATING PRECAUTIONS

DO NOT ALLOW STILL PICTURES OR PARTS OF PICTURES THAT DO NOT MOVE TO REMAIN ON THE SCREEN FOR AN EXTENDED LENGTH OF TIME. STILL IMAGES CAN ADVERSELY AFFECT YOUR PICTURE PROJECTION TUBES. SOME EXAMPLES OF STILL IMAGES ARE COMPUTERS, TELEVISION PROGRAMMING LOGOS AND VIDEO GAMES. IF STILL PICTURES CANNOT BE AVOIDED, REDUCE THE BRIGHTNESS AND CONTRAST LEVELS OF THE PICTURE TO MINIMIZE ANY DAMAGE THAT MIGHT OCCUR.

IMPORTANT NOTICE

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO WET LOCATIONS.

"This product complies with the Radio Interference requirements of the EC (European Community) Directive 87/308/EEC."

The model number and the serial number of this Projection TV are located on the rear panel.
Please write the serial number on the enclosed warranty card and keep it in a safe place for future reference.

NOTE:
There are no user serviceable parts inside the Projection TV.

WARNING: The apparatus shall not be exposed to dropping or splashing.

IMPORTANT

The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION:
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

IMPORTANT

If the apparatus is fitted with AC mains power outlet(s), see REAR PANEL FACILITIES for convenient connection of additional Hi-Fi component(s). Make all connections to the AC outlet(s) and the signal terminals first. Connect the plug to the wall socket last (make sure that the power switch is off.)

FOR USE IN THE UNITED KINGDOM

The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral
Brown: Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured marking identifying the terminals in your plug proceed as follows:

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.
Do not connect either wire to the earth terminal of a three pin plug.
Equipment sold in the U.K. is not supplied with a power plug.

PRELIMINARY INSTRUCTIONS

WHERE TO PUT THE PROJECTION TV

LIGHTING
Bright lights or direct sunlight will dull the picture. Set the Projection TV so that the screen faces away from windows.

AIR CIRCULATION
Leave space for air to circulate behind the Projection TV. Keep away from curtains and other furnishings that could block ventilation.

HEAT DAMAGE
Damage may occur if you leave the Projection TV in direct sunlight or near a heater.

OPTIMUM VIEWING DISTANCE
3 to 7 m is the range recommended for viewing comfort.

POWER SOURCE

This Projection TV operates on AC 220-240 V, standard household voltage.

NEVER CONNECT THE PROJECTION TV TO OTHER THAN THE SPECIFIED VOLTAGE, OR TO DIRECT CURRENT.

POWER OUTLET

- A damaged cord or plug is a fire hazard. If you notice wear or damage, have it fixed by qualified service personnel.
- Plug directly into the wall socket. Do not use extension cords or other receptacles. Do not overload the outlet; it may cause a fire hazard.

NOTE:
- *Never remove the back cover of the Projection TV as this will expose you to dangerously high voltage and other hazards. If the set does not operate properly, unplug it and refer to page 44.*

POWER-CORD CAUTION

Handle the power cord by the plug. Do not pull out the plug by tugging the cord and never touch the power cord when your hands are wet as this could cause a short circuit or electric shock. Do not place the unit, a piece of furniture, etc., on the power cord, or pinch the cord. Never make a knot in the cord or tie it with other cords. The power cords should be routed in such a way that they are not likely to be stepped on. A damaged power cord can cause a fire or give you an electrical shock. Check the power cord regularly. If you find it damaged, ask your nearest PIONEER authorized service center or your dealer for a replacement.

• DANGEROUS

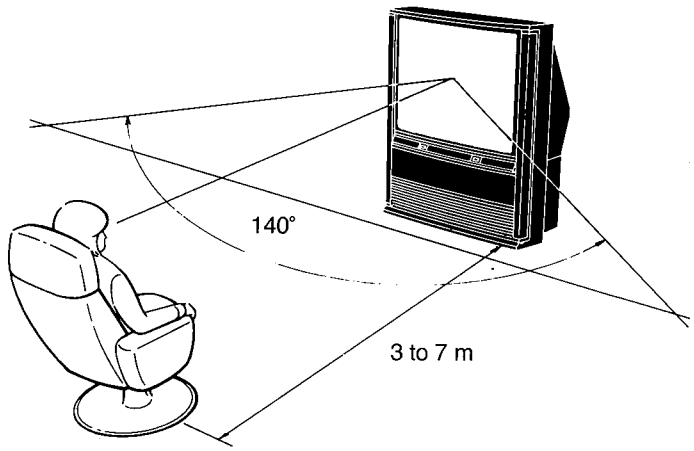
* Illustration not applicable to U.K. model.

FEATURES

Wide Viewing Range Screen

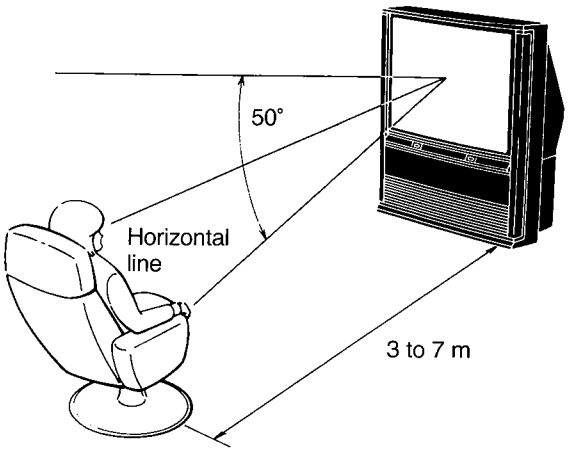
- 140° Horizontal Viewing Angle and 50° Vertical Viewing Angle.

Horizontal Viewing Angle



Vertical Viewing Angle

Watch from at least 3 meters away from the screen.
(Optimum viewing distance is 3 to 7 meters.)



You may sometimes see double images or rainbowlike effects if you view from outside of the recommended area shown here.

Amazingly Bright Picture

- New, highly efficient lens system.
- High-power picture tubes employ advanced anode stabilization circuitry.
- Picture realized by newly developed phosphorescent screen for the picture tubes.

Much Greater Contrast with Extended Gradation

- True black reproduction under all conditions, owing to a Black Level Correction Circuit.

Microcomputerized Dynamic Picture Optimizer (DPO)

- DPO (Dynamic Picture Optimizer) circuit detects room light and optimizes the TV picture accordingly.

Equipped with a VNR (Video Noise Reduction) system for reducing noise on the screen

AV Memory

- After adjusting the picture and sound quality, you can store your settings in "AV memory". Four AV memory settings can be stored and recalled.

Video mode selection feature for the EURO connectors

- You can choose the video input mode of the Projection TV's EURO connectors: Independent RGB inputs, S (Separate) video or composite video inputs.

Table of pages feature (TOP)-compatible Teletext system in addition to FASTEXT and STANDARD TELETEXT.

- You can enjoy Teletext service without the need for any additional adaptors.

Multisystem Video

- This projection TV incorporates PAL, SECAM, NTSC and 4.43NTSC color systems and B/G, I, D/K, L, L' and M tuner reception systems.

Multisystem Tuner Stereo Mode

- NICAM DIGITAL Stereo (B/G, I)
- CCIR 2 Carrier Analog Stereo (B/G)
- MTS (M)

TV Station and AV Input Labeling

INSTALLATION

ANTENNA CONNECTION

Connect to an outdoor antenna or centralized antenna terminal. (See page 12 for details.)

MOUNTING

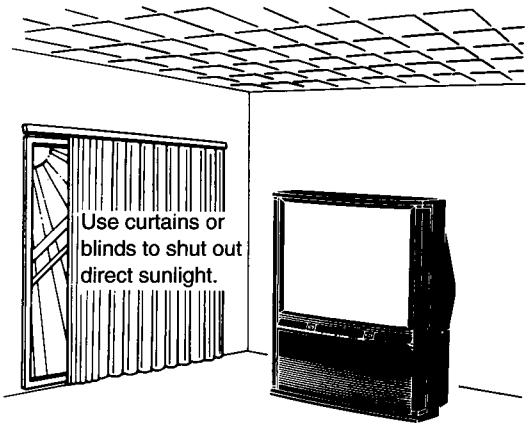
The Projection TV is designed to be placed on the floor or on a sturdy platform. The mounting surface should be flat and steady.

INSTALLATION PRECAUTIONS:

Place of Installation

- When the Projection TV is operating, it is cooled by air-flow through ventilation holes in the rear and bottom. Therefore, avoid placing it in a location where the cooling air-flow is hindered (e.g. against a wall).
- Avoid places subject to extremely high temperatures or humidity, or to temperatures of 5°C or lower. Also avoid dusty places.
- Do not set the Projection TV in an unstable location (such as on a shaky or tilted platform).
- When setting the Projection TV on a floor made of soft material, make sure that the floor is not damaged by the weight of the Projection TV.

Downward spot lights or fluorescent lights in an overhead "Honeycomb" prevent direct illumination of the screen.



Cover shiny surfaces (floor and walls) with nonreflective materials (carpet, rugs, wallpaper, etc.).

OPERATING PRECAUTIONS

Keep away from magnetic fields

The picture may be distorted if strong magnetic fields are nearby. External loudspeakers should be set at least 60 cm away from the Projection TV. Electric fans and other motor driven appliances and toys may also be sources of magnetism.

When moving the Projection TV

Pull out the plug and move the Projection TV carefully. Be particularly careful not to bump or scratch the screen. To avoid damage to the caster wheels you may need to lift the Projection TV when going over irregular surfaces.

Install in a flat, steady place

Do not put the Projection TV on a surface that is tilted, unsteady or prone to shake or vibrate. A shaky or slanted platform is dangerous.

Adjust room illumination

Excessively bright or dim lighting may strain your eyes. Draw the curtains if necessary to shut out direct sunlight.

When not using the Projection TV for a long time

For safety, unplug the power cord when leaving the Projection TV turned off for a long period of time.

Condensation and picture blurring

- If the room temperature suddenly rises (or if the Projection TV is moved from a cool place to a hot place), condensation may form on the lenses, resulting in picture distortion or color fading. If this occurs, simply wait a while (with the ⏻ switch on) and the condensation will disappear.
- A gradual change in temperature can prevent dew formation.

A word about still pictures

- Do not project a still picture on your Projection TV for a long period of time.
  (For example: when using your Projection TV for video games, displaying a test pattern, monitoring your personal computer, or while playing back video discs.) This can adversely affect Projection TV's CRT. If this cannot be avoided, reduce the contrast of the picture in order to minimize any damage which might occur.

MAINTENANCE OF EXTERNAL SURFACES

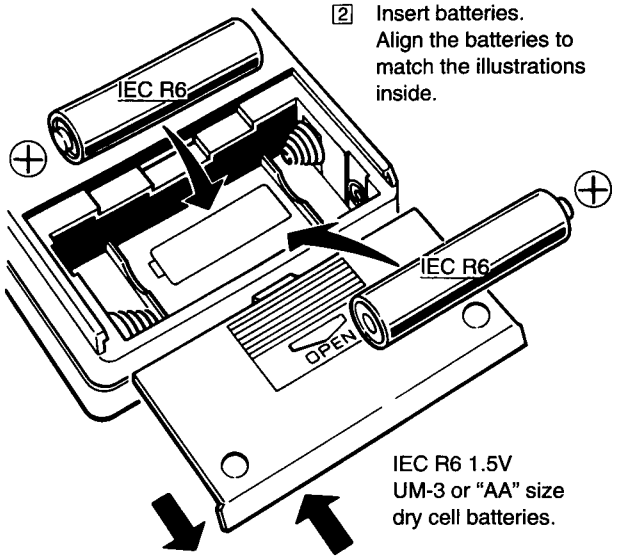
- Use a polishing cloth or dry cloth to wipe off dust and dirt.
- When the surfaces are very dirty, wipe with a soft cloth dipped in some neutral cleaner diluted five or six times with water, and wrung out well, and then wipe again with a dry cloth. Do not use furniture wax or cleaners.
- Never use thinners, benzine, insecticide sprays and other chemicals on or near this unit, since these will corrode the surfaces.

INSERTING BATTERIES IN THE REMOTE CONTROL UNIT

You will find the remote control unit packed inside the Projection TV box. Open the remote control unit and insert the batteries. Follow the procedure below:

1. Open the battery compartment on the rear of the remote control unit. Press down with your thumb while sliding the lid outward.
2. Note the polarity (+ and –) markings in the case. Insert the supplied batteries so that they match the markings.
3. Close the lid by sliding it back in until it clicks into place.

INSERTING BATTERIES


2 Insert batteries. Align the batteries to match the illustrations inside.
IEC R6
IEC R6
OPEN
IEC R6 1.5V UM-3 or "AA" size dry cell batteries.
1 Open by pressing with your thumb while sliding outward.
3 Close the lid by sliding it back into place.

Incorrect use of batteries may lead to leakage or rupture. Always be sure to follow these guidelines:

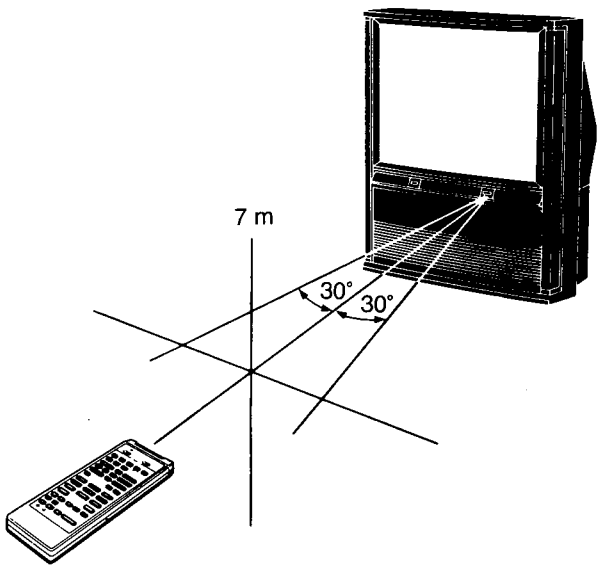
A.
Always insert batteries into the battery compartment correctly matching the positive + and negative – polarities, as indicated inside the compartment.

B.
Never mix new and used batteries.

C.
Batteries of the same size may have different voltages, depending on their type. Do not mix different types of batteries.

REMOTE CONTROL OPERATION RANGE

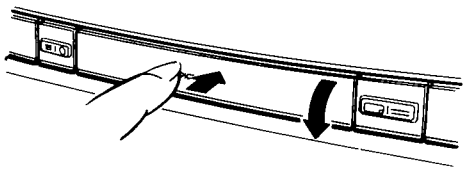
- Point the remote control unit toward the front of the Projection TV when you press any of the control buttons.
- The remote control unit should be effective at distances of up to about 7 meters from the Projection TV and at angles of up to about 30 degrees from a line perpendicular to the front panel.
- Furniture and other obstacles may block the infrared light beam so that it cannot reach the sensor on the Projection TV's front panel.
- If there is no response even when the remote control is used directly in front of the Projection TV, the dry cell batteries may need replacement.
- Performance of the remote control unit is a adversely affected in the presence of strong fluorescent light. Keep such lights away from the sensor window in particular.

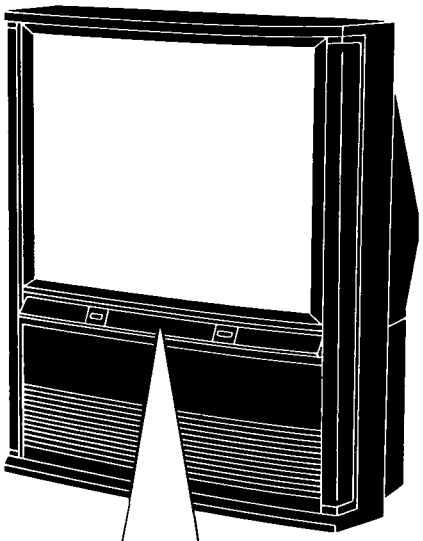


FRONT PANEL FACILITIES

A flip-down door conceals the control panel. Push gently and release to open the door.
To close the door, lift it back up into place.

Push and release to open.



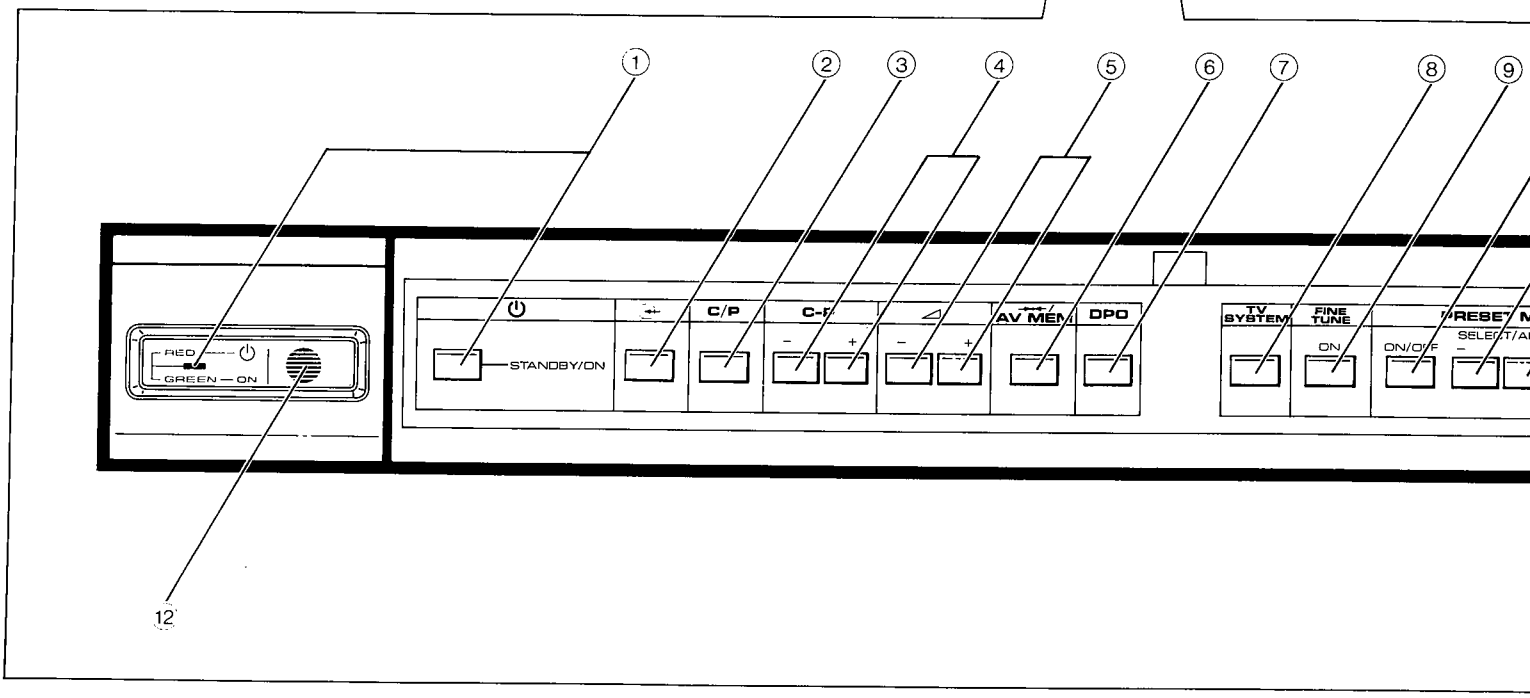


NOTE:

- *If you accidentally pull the door open, it may not shut properly. Push in when shutting the door to restore it to normal operation.*

Control Panel

- Use the remote control unit to operate most functions. See pages 14 to 25.



Attention

The Projection TV will not function properly in the following cases:

- Lightning storms.
- High static electricity environment.
- Poor voltage regulation in the power source.

If the Projection TV does not operate properly, reset it as follows.

① Unplug from the power supply for approximately 1 minute.
② Plug the power cord in again to reset it.

Some memorized modes such as the last memorized mode may be erased when resetting the Projection TV.

① ⏻ STANDBY/ON Button/Indicator
Press once to turn on the power (the indicator turns green). Press again, to set to standby mode (the indicator turns red). This unit is equipped with an Auto STANDBY circuit 8 minutes after the input signal ceases to be supplied (for example, the TV channel being received stops broadcasting), the set will automatically switch to stand-by mode.

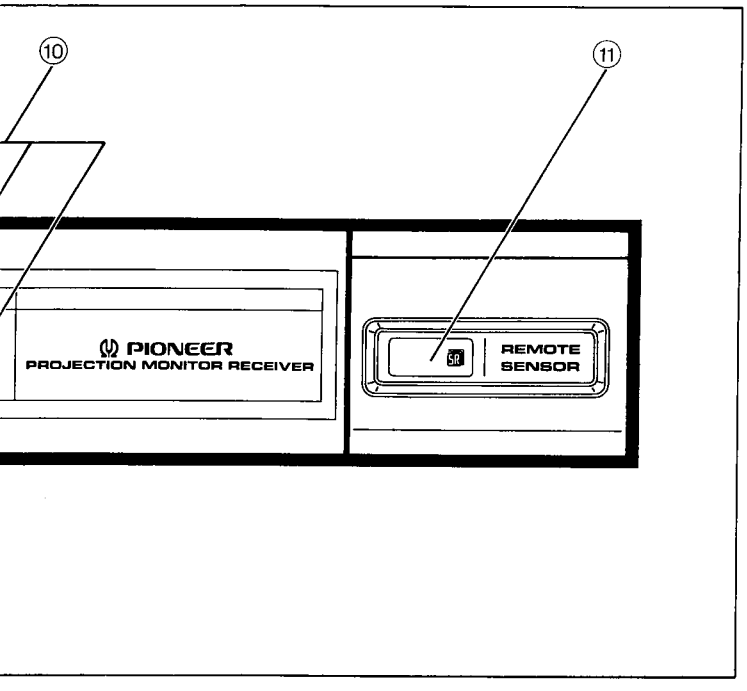
ON: When set to the ON position, power is supplied and the unit becomes operational.

STANDBY: When set to the STANDBY position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness.

② ⊕ (Input Selector) Button
Press to select INPUT source. INPUT sources will change as follows: TV, AV-1 AV-2, AV-3, AV-4. Even when TV, AV-2, AV-3 or AV-4 is selected, if an input signal is received from AV-1, the input selector switches to AV-1.

③ C/P (Channel/Program) Button
Press to switch between the channel and the program number tuning functions.

④ C-P (Channel-Program)+/– Buttons
Press up (+) or down (–) to tune to a higher or lower channel or program. Only those programs in STATION STORING can be tuned in by this method. For details, see page 17.



⑤ ◿ (Volume) Buttons
Press the plus (+) or minus (–) button to raise or lower the volume.

⑥ AV-MEM audio/video (Standard/AV Memory) Button
Press to switch between the standard (STD) picture/sound settings and the AV MEMORY 1, 2, 3 and 4 settings which have been input with the PRESET MENU.

⑦ DPO (Dynamic Picture Optimizer) Button
You can turn the DPO on or off as desired. When the DPO is on, it automatically adjusts the picture to compensate for room illumination.
For details, see page 29.

⑧ TV SYSTEM Button
To select TV system, B/G, D/K, L, L', I or M during TV reception and to select channel table.

⑨ FINE TUNE Button
Press to turn the fine tuning function on and off. Press the PRESET MENU SELECT/ADJ +/– buttons after turning on the fine tuning function if you wish to finely adjust the tuning.

⑩ PRESET MENU Buttons
These buttons are used to perform the following presetting operations: color convergence adjustment, AV memory storing, DPO adjustments, Video mode settings, Color system setting, Sound system setting and TV stations storing. For details, refer to the description of each function.
ON/OFF: Press to turn the operation menu on and off. When the operation menu is turned on, CONVERGENCE, AV MEMORY, DPO BASE, VIDEO SYSTEM, COLOR SYSTEM, SOUND SYSTEM and STATIONS STORING will appear on the screen.
SELECT/ADJ: Press to select or adjust each of the above operations. The selected item will turn red on the screen.
These buttons are used as channel select buttons when the stations storing operation is engaged.
SET: Press to store the setting after adjusting or selecting an item.

⑪ REMOTE SENSOR
This sensor picks up infrared signals from the remote control unit.

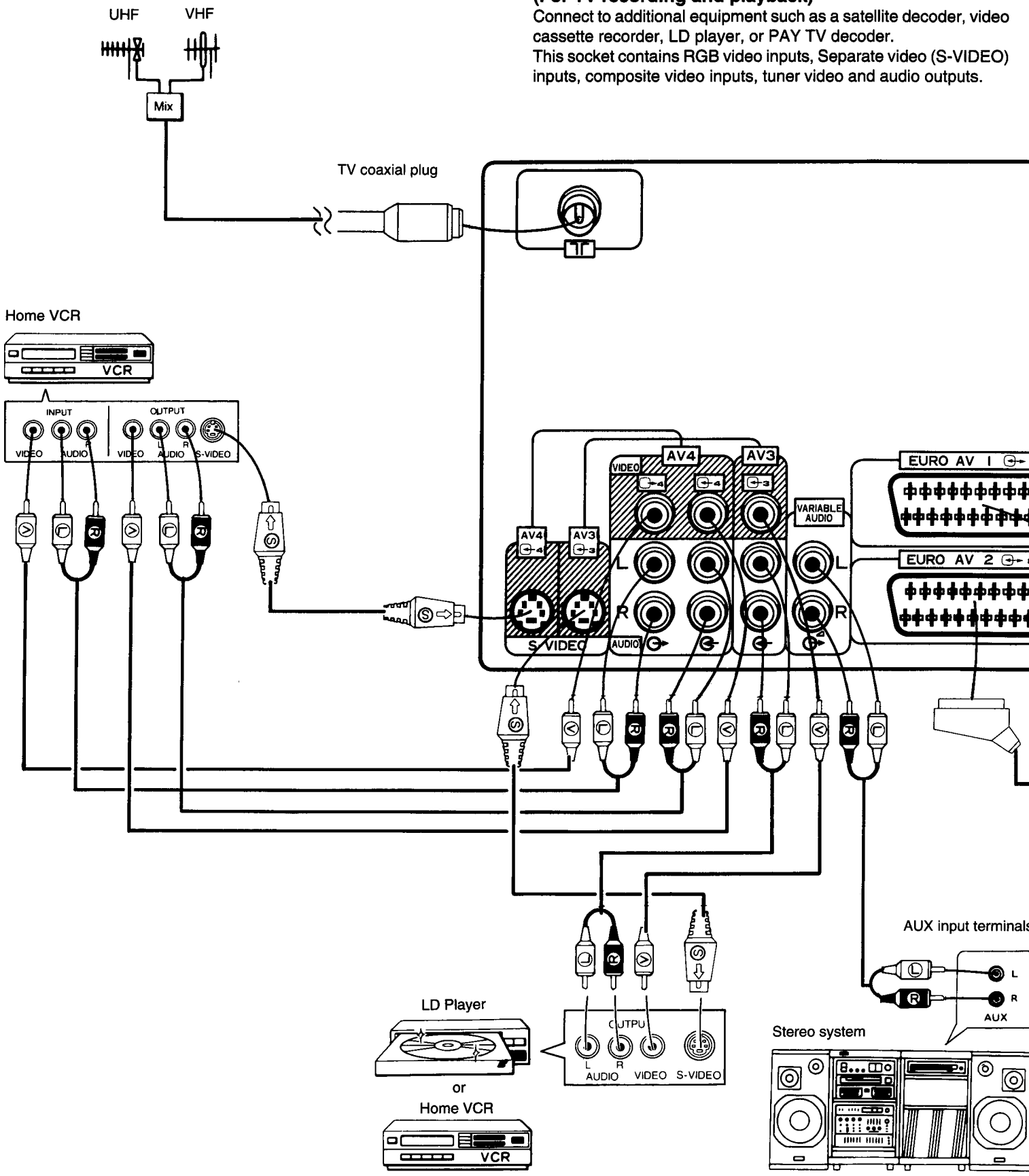
⑫ DPO SENSOR
This sensor detects ambient lighting for the DPO (Dynamic Picture Optimizer) circuit which optimizes the TV picture accordingly.

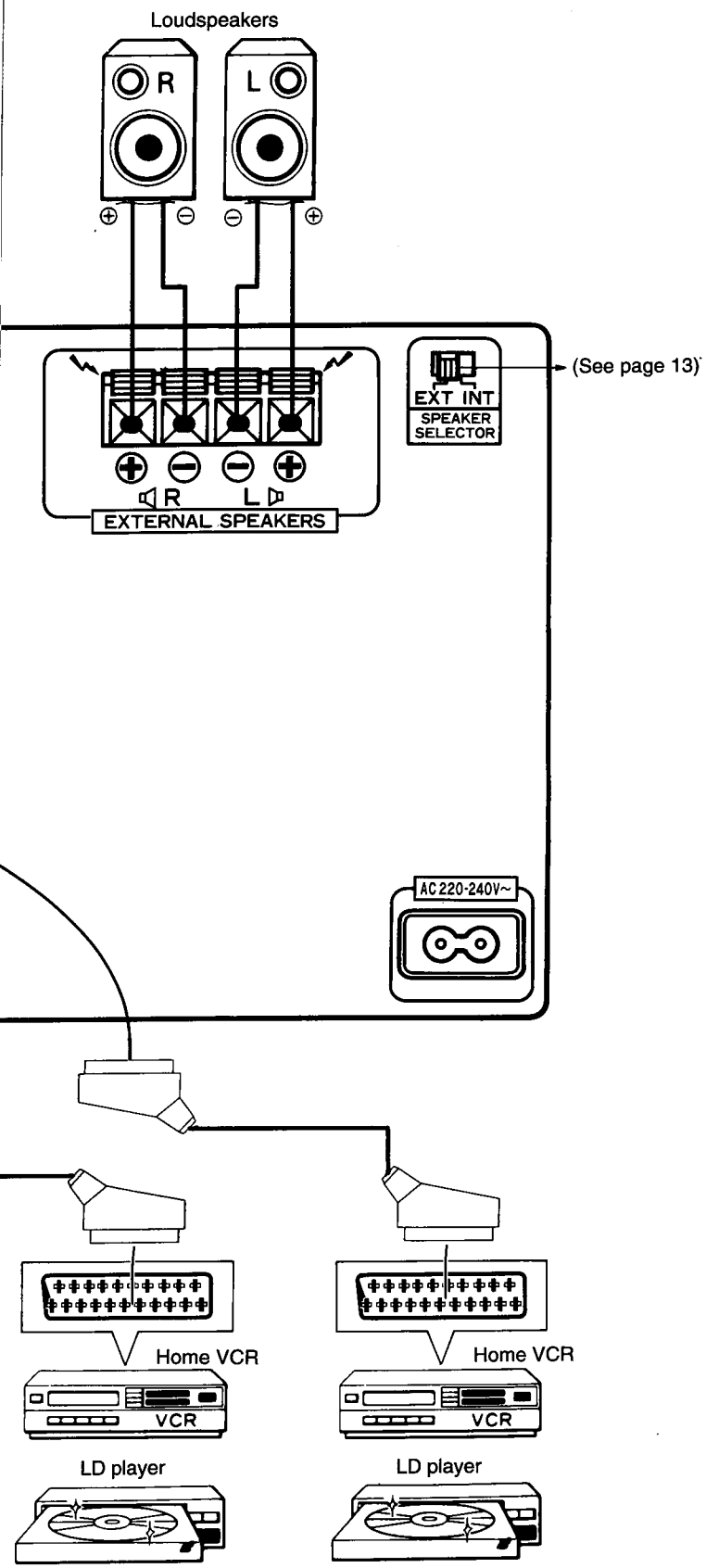
SYSTEM CONNECTION DIAGRAM

- Turn off all the components before making connections.
- Refer to the operating instructions for your video cassette recorder, LD player and other equipment for details on how to make connections.

(Antenna input) Terminal
Connect to 75 Ω antenna cable.

[EURO AV 1] socket
(For TV recording and playback)
Connect to additional equipment such as a satellite decoder, video cassette recorder, LD player, or PAY TV decoder.
This socket contains RGB video inputs, Separate video (S-VIDEO) inputs, composite video inputs, tuner video and audio outputs.





AC220–240V~ POWER TERMINAL
Connect to a Localised power outlet (I.E. wall socket), using a power cord.

EURO AV 2 socket
(For AV-1, AV-3 and AV-4 recording and AV-2 playback)
Connect to additional equipment such as a satellite decoder, video cassette recorder, LD player, or PAY TV decoder.
This socket contains Separate video (S-VIDEO) inputs, composite video inputs, video and audio outputs for monitoring.

AV3 terminals (for playback)
Connect to additional equipment such as a video cassette recorder or LD player.
S-VIDEO (Separate-Video): If you attach additional equipment to this terminal, use an optional S-Video connection cord. (If both the RCA pin terminal and S-VIDEO terminals are connected at the same time, the RCA pin terminal input signal will be automatically cut off when equipment is plugged into this terminal.)
RCA pin (Video Input): Connect to the video output terminal of your equipment.
R/L (Left and Right Audio Inputs): Connect to the left and right channel output audio terminals of your equipment.

AV4 terminals
Connect to additional equipment such as a video cassette recorder or LD player.
S-VIDEO (Separate-Video): If you attach additional equipment to this terminal, use an optional S-Video connection cord. (If both the RCA pin terminal and S-VIDEO terminals are connected at the same time, the RCA pin terminal input signal will be automatically cut off when equipment is plugged into this terminal.)
RCA pin 4 (Video Input): Connect to the video output terminal of your equipment.
R/L (Left and Right Audio Inputs): Connect to the left and right channel output terminals of your equipment.

AV4 terminals
RCA pin 4 (Video Output): Connect to additional video equipment for monitoring video cassette recorder, for example.
R/L (Left and Right Audio Outputs): Connect to audio inputs of additional video equipment or audio system.

terminals
(Left and Right Variable Audio Outputs)
Connect to the Audio auxiliary inputs of your Hi-Fi audio system. You can listen to the sound of the selected input video via your Hi-Fi system. These outputs are controlled by the volume, bass, treble and balance controls of the Projection TV.
NOTE:
- *Signals from these output jacks will be affected by AV memory, bass and treble tone adjustments using the AV MEM button, SOUND button, + , − button.*

EXTERNAL SPEAKERS TERMINALS
(L : Left channel/ R: Right channel)
Connect to additional loudspeakers (purchased separately, see page 13)

SPEAKER SELECTOR SWITCH (EXT/INT)
To select which loudspeakers; internal or external, are used. (See page 13).
EXT (External): Output from the EXTERNAL SPEAKERS terminals.
Sound from the internal loudspeakers will be cut off.
INT (Internal): Output from the internal loudspeakers. Sound from the EXTERNAL SPEAKERS terminals will be cut off. Normally set switch to this position.

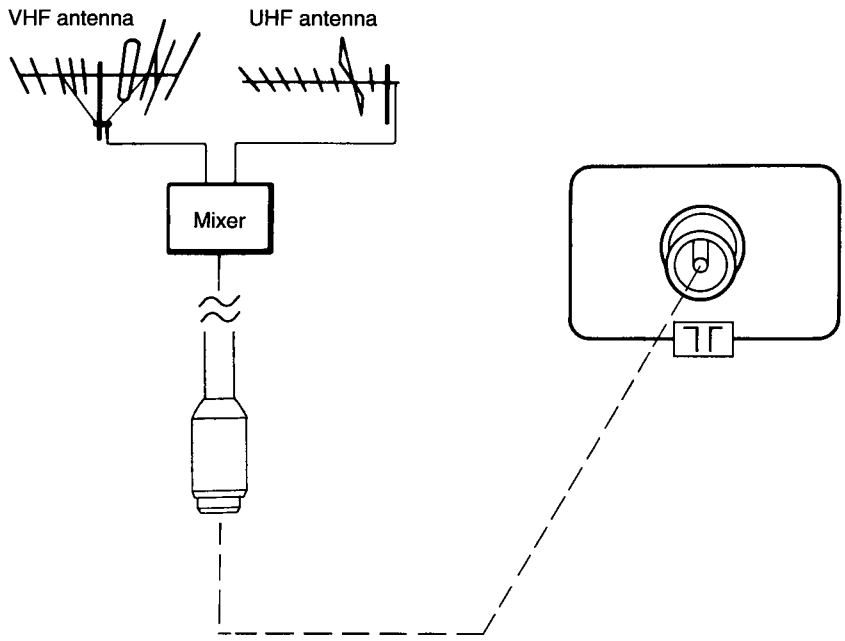
ANTENNA CONNECTIONS

A good color picture, good stereo sound and teletext operation depends on a good TV signal. To ensure the highest signal quality, choose an antenna that suits your reception area and have it properly installed. Ask your dealer for advice.
Of course, if you will be subscribing to cable or have a central antenna for your building, then you will not need an external antenna. However, proper connections from the TV signal source to your Projection TV are essential. Please refer to the instructions below.

USING THE ANTENNA CABLE CONNECTOR

The cable connector plugs into the Projection TV's antenna terminal. This unit is designed to connect to a 75 Ω coaxial cable using a TV coaxial plug.

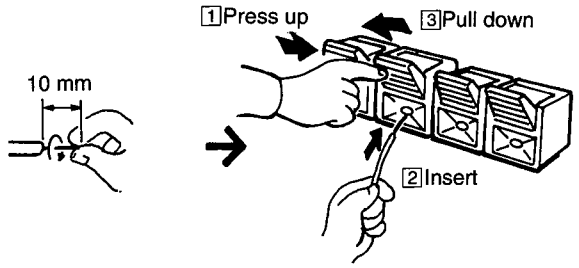
Connect the antenna cable connector into the ⊓ (antenna) terminal.



LOUDSPEAKERS

CONNECTING EXTERNAL LOUDSPEAKER WIRES

Turn off the power of the Projection TV.



Strip each wire so that about 10 mm is exposed. Twist the core.

Press up the lever, insert the wire, and pull the lever down to lock the wire into place. Pull gently on the wire to check that it is securely connected.

Do this for each wire. Be careful to connect the right loudspeaker's plus and minus terminal wires to the "R" "+" and "–" terminals. Likewise, connect the left loudspeaker's plus and minus terminal wires to the "L" "+" and "–" terminals.

Precautions

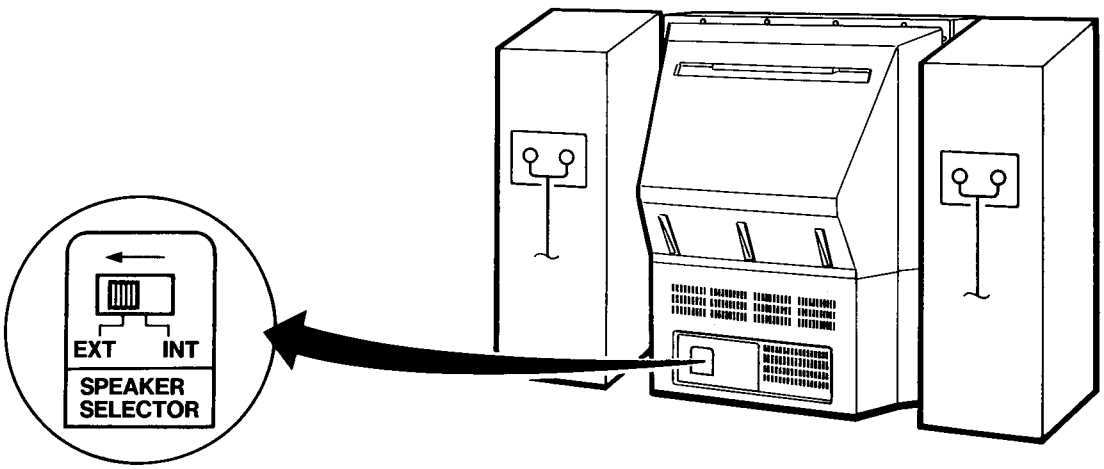
- Be sure that exposed wires do not protrude and touch each other.
- If you do not hear a normal stereo image when listening to a stereo program, it may be because the "+" and "–" connections are reversed for one of the external loudspeakers.
- Make sure that the right loudspeaker is connected to the "R" terminals and the left loudspeaker to the "L" terminals.
  Make sure that each loudspeaker's two wires are properly connected to the appropriate "+" and "–" terminals.

NOTES:

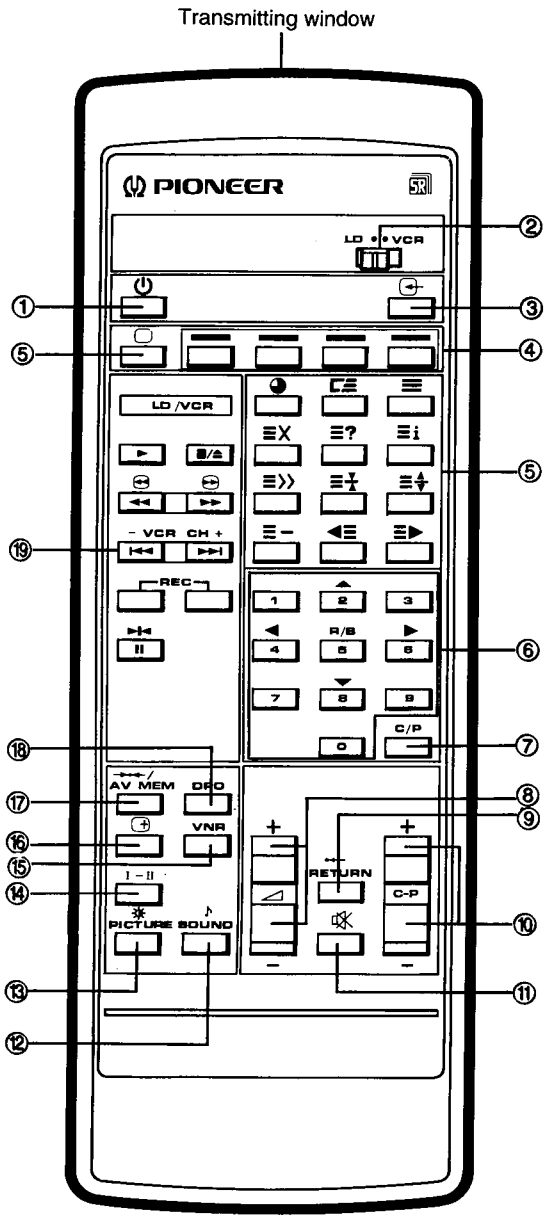
- *Use loudspeakers with an impedance rating of from 8 Ω to 16 Ω.*
- *Ordinary loudspeakers are not magnetically shielded and may disturb the picture if placed too close to the Projection TV. If you notice a problem, move the loudspeakers about 60 cm away from the Projection TV.*

SPEAKER SELECTOR SWITCH

Set this switch to the INT position if you will be listening to the built-in loudspeakers. If you have connected external loudspeakers (or if you will be listening through your stereo system), then you can turn off the built-in loudspeakers by setting the switch to the EXT position.



REMOTE CONTROL UNIT FACILITIES



① Standby Button (⏻)
Press to turn the Projection TV STANDBY.

② LD .. VCR Switch
(LaserDisc/Video Cassette Recorder)
To select the remote control function mode of the LD/VCR remote control buttons; either LD or VCR.

③ Input Selector
Press to select the external video source you wish to watch.

TV → AV1 → AV2 → AV3 → AV4

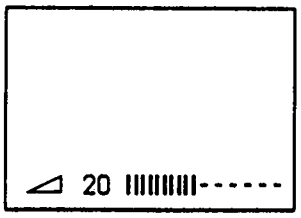
④ Green, Yellow, Blue and Red Colored Buttons
Press to select pages for the TOPTEXT or FASTTEXT. For details, see pages 38 to 40.

⑤ Teletext Operation Buttons and Teletext Cancel (▢) Button
Press to select teletext operations.
Press the ▢ button to cancel the Teletext function.

⑥ Numeric Buttons (0 to 9)/ Power ON
Press to select a TV channel or program directly. While Teletext is engaged, press to select Teletext page you wish to search. If the power is off, pressing these buttons turns the power on.
2 (▲ : Up), 4 (◀ : To the left), 5 (R/B : To select Red or Blue), 6 (▶ : To the right) and 8 (▼ : Down) buttons are used to adjust color convergence when the convergence adjustment mode is engaged.

⑦ C/P (Channel/Program)
Press to select either channel number or program number when tuning to a television broadcast.

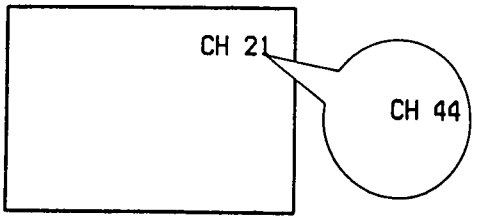
⑧ ◿ (Volume) +, −/Adjust +, −
Press the + button to increase the volume, and the – button to decrease it.
Volume adjustment will appear on the screen as numbers and a bar-graph. '63' indicates the maximum volume level. The display will disappear from the screen after 4 seconds.
Adjustments for SOUND items (bass, treble and balance) or PICTURE items (color, tint, contrast, brightness and sharpness) can also be made.
First press the SOUND or PICTURE button the necessary number of times to select the item to be set.
Then adjust the level using the (+) and (–) buttons.



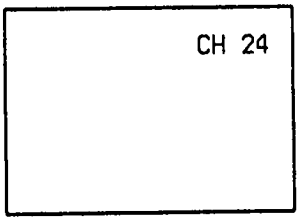
NOTE:

- *When using this button to control the volume after having used it for the Adjust function, make sure that the picture or sound adjustment display has disappeared.*
  This button will operate as the picture or sound adjustment as long as a picture or sound adjustment display appears on the screen.

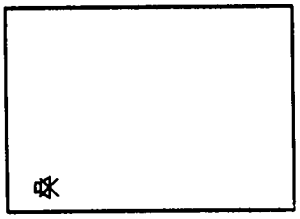
⑨ RETURN ⇤
Press to switch between the current channel or program and the channel or program you were watching immediately before. This is useful, for example, if you wish to switch back and forth between two sporting events.



⑩ C-P (Channel - Program) +, –
Press the C-P (+) or C-P (–) to scan up or down among the channels or programs in stations storing.



⑪ (Mute)
Press to temporarily turn off the sound, and again to return to the previous volume level. This is useful, for example, when you get a phone call.
The (Mute) display will appear in red while mute is engaged.
If the mute function is left on for over approx. 8 minutes, the function will be cancelled automatically, and the volume level will be reset to 0.
The mute display will disappear from the screen when the mute is cancelled.



⑫ SOUND ♪
Press to select the sound parameter to be adjusted.

→ (Bass) → (Treble) → (Balance) ——

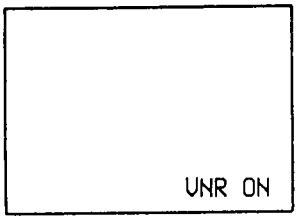
⑬ PICTURE
Press to select the picture parameter to be adjusted. The display will appear on the screen if the NTSC or 4.43 NTSC color system is selected by pressing the PRESET MENU SELECT/ADJbutton. (See preset menu operation "SELECTING THE COLOR SYSTEM".)
- The Tint adjustment is possible when the NTSC or 4.43 NTSC color system is selected.

→ (Color) → (Tint) → (Contrast) ——
(Sharpness) ← (Brightness) ←——

⑭ I-II (TV Sound Mode)
Press to select the reception TV sound mode.
The switching sequence is as follows.

→ DUAL I ——→ DUAL II
DUAL I /II ←——

⑮ VNR (Video Noise Reduction)
You can turn VNR on or off as desired. When VNR is on, the noise on the screen is reduced. For details, see page 24.

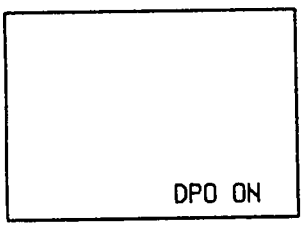


⑯ (Display)
Press once to display the current channel and/or other information on the screen.

⑰ /AV MEM (Standard/AV Memory)
Press to switch between the standard (STD) picture/sound quality settings and your AV MEMORY 1, 2, 3 and 4 setting.
This button only recalls settings stored in AV MEMORY. To put the current picture/sound settings into AV MEMORY, use the control panel PRESET MENU buttons. For details, see page 30.

→ STANDARD → AV MEMORY 1 → AV MEMORY 2 ——
DISPLAY OFF ← AV MEMORY 4 ← AV MEMORY 3 ←——
(Temporary memory mode)

⑱ DPO (Dynamic Picture Optimizer)
You can turn DPO on or off as desired. When DPO is on, it automatically adjusts the picture to compensate for room illumination. For details, see page 29.



⑲ LD/VCR (LaserDisc/Video Cassette Recorder) Operation Buttons
Press to operate a PIONEER LD player or video cassette recorder. For details, see page 16.

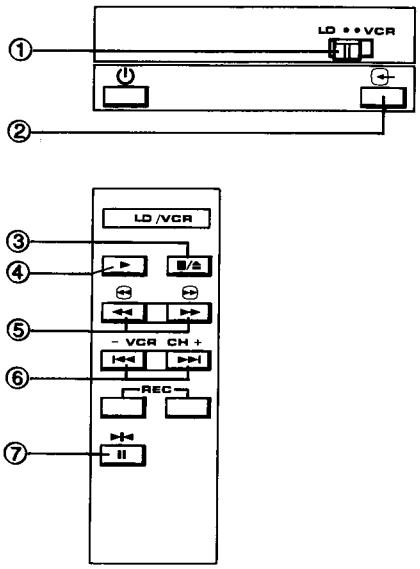
Control buttons for a PIONEER LD Player and VCR

If your LD (LD Player) or VCR is a PIONEER model, your remote control unit can perform most basic operations.
The LD/VCR switch is used to select whether the remote control unit operation buttons will function as LD player or VCR control buttons.

LD Player Control

Turn on your LD player before operating.

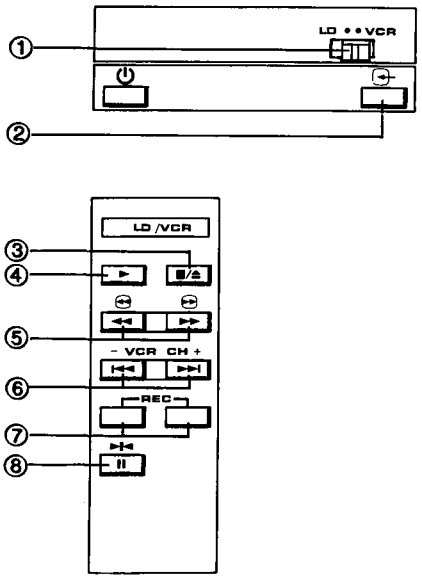
① **Set the LD/VCR switch to LD.**
② **Press the ⊖ button repeatedly to set the input selector to the AV connector/terminal to which the LD player is connected.**
③ **Stop/Eject (■/⏏) button**
Press once to stop playback, twice to eject the disc.
④ **Play (▶) button**
Press to begin playback.
⑤ **Scan (⊖ / ⊖) button**
Press the ▶▶ side of the button to search in the forward direction while playing back the videodisc.
Press the ◀◀ side of the button to search in the reverse direction while playing back the videodisc.
⑥ **Chapter Skip button (⏮/⏭)**
Press the ⏭ side of the button to skip directly to beginning of the next chapter, press the ⏮ side to skip directly back to the beginning of the chapter currently in play. This operation can only be performed on an LD Player with chapter skip function.
⑦ **Pause/Still (⏸/⏭) button**
Temporarily interrupts playback.



VCR Control

Turn on your VCR before operating.

① **Set the LD/VCR switch to VCR.**
② **Press the ⊖ button repeatedly to set the input selector to the AV connector/terminal to which the VCR is connected.**
③ **Stop/Eject (■/⏏) button**
Press once to stop playback.
* Eject function will be performed only if your VCR is equipped with the remote control eject function.
④ **Play(▶) button**
Press to begin playback.
⑤ **Rewind/Fast Forward (⊖/⊖) button**
This button allows high-speed movement through parts of the tape that you don't wish to watch. Press the left side of the button to rewind the tape, and the right side to advance.
During playback, use this button to search visually forward or backward.
⑥ **VCR CH (Channel) +/– button**
Press to select the channel of the TV tuner on the VCR.
⑦ **REC (Record) buttons**
Press both buttons at the same time to start recording.
⑧ **Pause/Still (⏸/⏭) button**
Temporarily interrupts recording or playback, producing a still picture during playback.



TV CHANNEL SELECTION

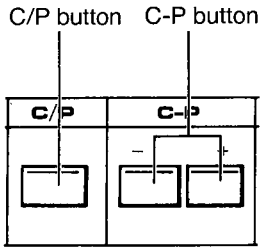
The Projection TV uses a frequency synthesizer tuning system to permit reception of the B/G, I, D/K, L, L' and M reception standards and enables reception of up to almost 500 channels world-wide using 5 channel tables. (See pages 45 to 47).
You can use the "+" or "–" marked C-P button on the remote control unit or the control panel on the Projection TV to skip through the TV channels one by one.
Or you can use the remote control unit numeric buttons "0" through "9" to directly enter the channel or program number.

To select a TV channel directly

1. Press the "0" through "9" numeric buttons to input the desired channel. If the power is off when the buttons are pressed, the power will be turned on.
   The selected number appears on the screen, along with "CH" (channel) or "PR" (program).
2. If "PR" appears, press the C/P button to select "CH".

Example:

To select CH 9	Press 9 (or press 0, then 9)
To select CH 59	Press 5, then 9
To select CH 20	Press 2, then 0



NOTE:

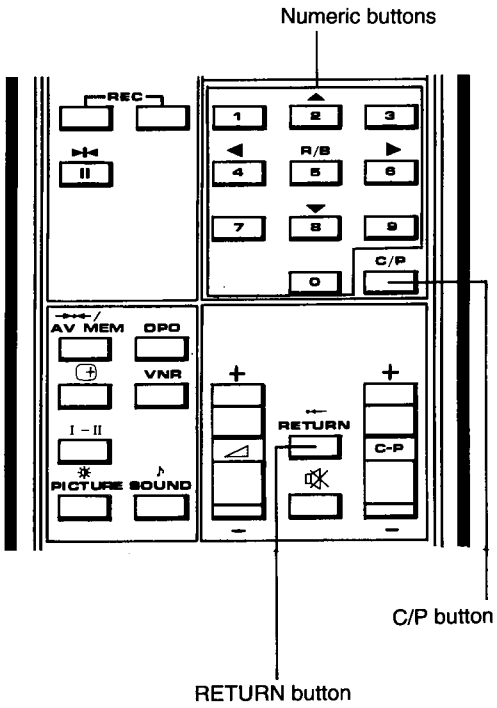
- *When selecting a two-digit channel number, press the 2nd numeric button within 2 seconds of pressing the 1st numeric button. If the second number is not pressed within 2 seconds, the first number is selected as the channel number.*

To select a program number directly

1. Press the "0" through "9" numeric buttons to input the desired channel. If the power is off when the buttons are pressed, the power will be turned on.
   The selected number appears on the screen, along with "CH" (channel) or "PR" (program).
2. If "CH" appears, press the C/P button to select "PR".

Example:

To select PR 7	Press 7 (or press 0, then 7)
To select PR 39	Press 3, then 9
To select PR60	Press 6, then 0



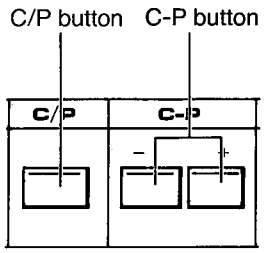
NOTE:

- *When selecting a two-digit program number, press the 2nd numeric button within 2 seconds of pressing the 1st numeric button. If the second number is not pressed within 2 seconds, the first number is selected as the program number.*

If you wish to watch the previously selected channel
Press the RETURN button of the remote control unit. The TV channel or programmed channel selected immediately prior to the current one will appear.

To return to the original TV channel or programmed channel, press the RETURN button again.

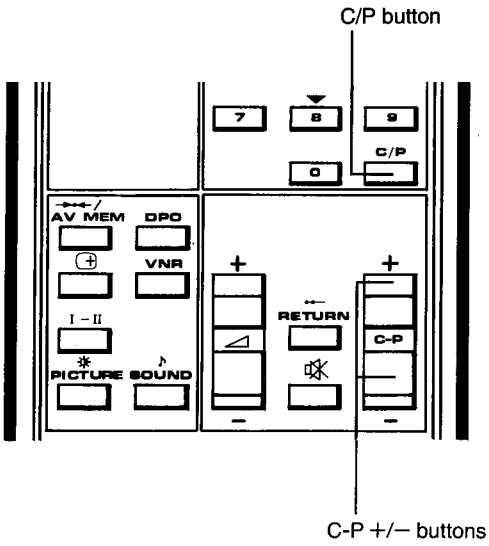
To select a TV channel with the +/– C-P buttons



1. If the power is off, press the "0" through "9" numeric buttons to select the channel directly, as described above; or press the ⏻ button on the front panel and press the ⊕-button until a TV program appears.
   The selected number appears on the screen, along with "CH" (channel) or "PR" (program).
2. If "PR" appears, press the C/P button to select "CH".
3. Press the + button to move to the next (higher) channel.
   Press the - button to move to the previous (lower) channel.

If you wish to move through the TV channels rapidly, press and hold the button.

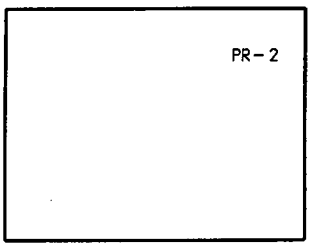
To select the programmed TV channels



1. If the power is off, press the "0" through "9" numeric buttons to select the channel directly, as described above; or press the ⏻ button on the front panel and press ⊕-button until a TV program appears.
   The selected number appears on the screen, along with "CH" (channel) or "PR" (program).
2. If "CH" appears, press the C/P button to select "PR".
3. Press the + button to move to the next (higher) program number.
   Press the – button to move to the previous (lower) program number.

If you wish to move through the programmed channels rapidly, press and hold the button.

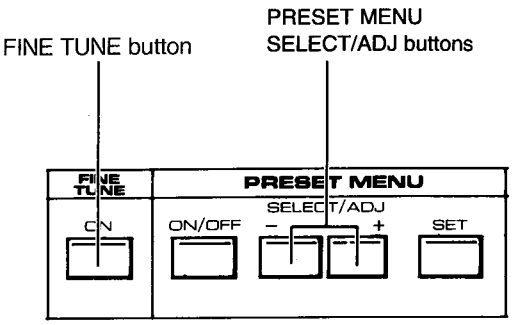
To add or delete channels from programmed channel memory, refer to STATIONS STORING on page 33.



Fine tuning

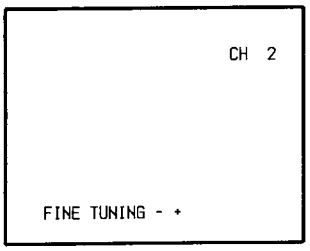
In areas with poor reception and in the case of stations where the transmission frequencies deviate from those given in the channel tables, it may prove necessary to improve the picture and sound quality by means of fine tuning.

1. Press the "0" through "9" numeric buttons to input the desired channel. If the power is off when the buttons are pressed, the power will be turned on.
   The selected number appears on the screen, along with "CH" (channel) or "PR" (program).
2. If "PR" appears, press the C/P button to select "CH".
3. Press the FINE TUNE button. The fine tuning display will appear on the screen.
4. Press the PRESET MENU + or – button to adjust the tuning of the picture and sound as clearly as possible. The mark on the screen (+ or –) will flash while the button is pressed.
5. When fine tuning is completed:
   Press the FINE TUNE button again. The fine tuning display will disappear from the screen.



NOTE:

- *Fine tuning will be cancelled automatically when another TV channel or programmed channel is selected. Fine tuning is necessary if the selected TV program cannot be seen clearly or when distorted sound is heard.*



TV system setting

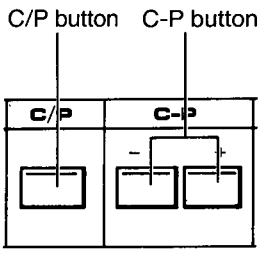
This Projection TV can select the following TV systems while tuned in to a TV channel:
B/G, I, D/K, L, L' and M systems.

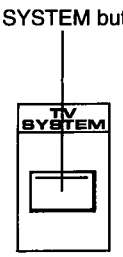
1. Press the "0" through "9" numeric buttons to input the desired channel ; if the power is off when the buttons are pressed, the power will be turned on.
   The selected number appears on the screen, along with "CH" (channel) or "PR" (program).

2. If "CH" appears, press the C/P button to select "PR".

3. Press the TV SYSTEM button to select a TV system on the front panel. TV system display will appear on the screen in the following sequence:

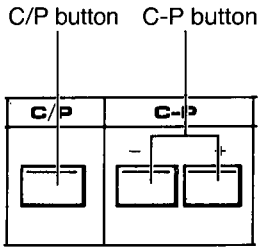
   → B/G → I → L → L' → D/K → M





Channel table selection

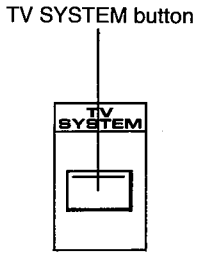
This Projection TV tuner has 5 sets of channel tables (refer to pages 45 - 47 for details).
You can select the most suitable channel table for your area for watching TV programs.



1. Press the "0" through "9" numeric buttons to input the desired channel. If the power is off when the buttons are pressed, the power will be turned on.
   The selected number appears on the screen, along with "CH" (channel) or "PR" (program).

2. If "PR" appears, press the C/P button to select "CH".

3. Press the TV SYSTEM button on the panel. Channel table display will appear on the screen in the following sequence:



→ Table A → Table B → Table C → Table D → Table E →

SOUND AND VIDEO MODE SELECTION

This projection TV incorporates the follwing tuner STEREO SYSTEMS:

1) GERMAN/CCIR/A2 ANALOG 2 CARRIER SYSTEM (B/G)
2) NICAM DIGITAL STEREO (B/G,I)
3) MTS (M)

Selecting dual TV sound program

If the TV system is set to B/G, CCIR 2 carrier analog system can be decoded when broadcasted. You can select stereo or monaural sound and original or second language audio while watching a TV program.
If STEREO appears on the screen for approximately 4 seconds:
The program is being broadcast in stereophonic sound.

NOTE:

- *The TV sound decoder will select stereo sound or monaural sound automatically, according to the sound mode of the TV program.*

Selecting monaural sound

If you wish to listen to monaural sound while a stereo sound program is being received; or if you hear a lot of static while receiving a stereo sound program.

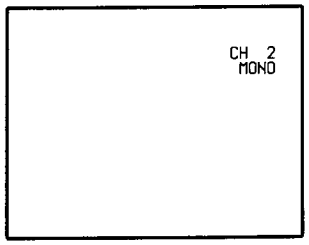
1. Turn the Projection TV on and select a TV station.
2. Press the PRESET MENU ON/OFF button to turn the operation menu on.
   Operation menu will appear on the screen.
3. Press the PRESET MENU SELECT/ADJ buttons until SOUND SYSTEM turns red, and then press the PRESET MENU SET button.
4. Press the PRESET MENU SELECT/ADJ buttons to select SOUND SYSTEM MONO.
5. After selecting the sound system, press the PRESET MENU SET button to memorize the setting.
6. Press the PRESET MENU ON/OFF button to remove the preset menu from the screen.

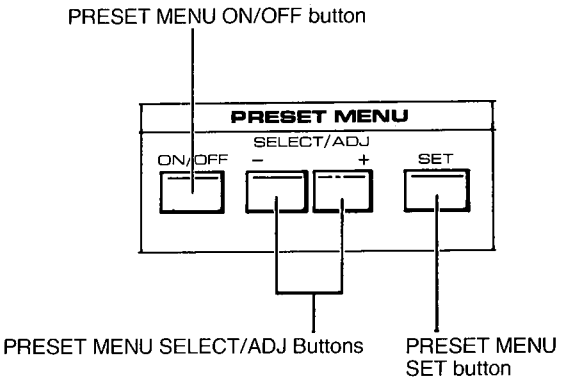
Dual sound reception

If DUAL I appears on the screen:
The program is being broadcast in two languages. You can select between the original and second language audio signals by pressing the I - II button.
The switching sequence is as follows:

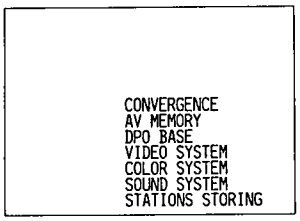
→DUAL I (original language) → DUAL II (second language)→
←DUAL I/II (original and second language) ←

Notice:
It takes (several) 4 ~ 5 sec approx for MONO/STEREO and MONO/DUAL switching for CCIR system when sound system in PRESET MENU is set to AUTO.

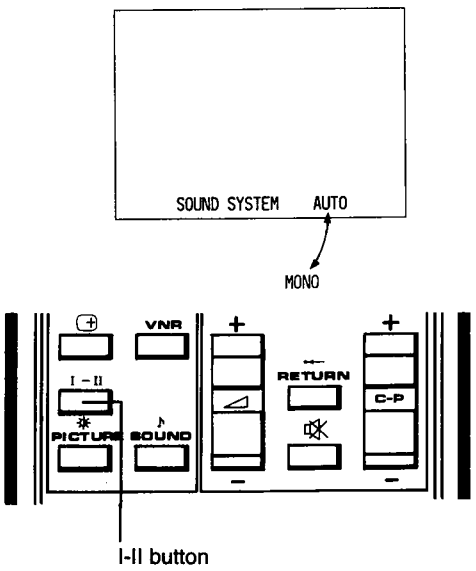




■ **Preset Menu**

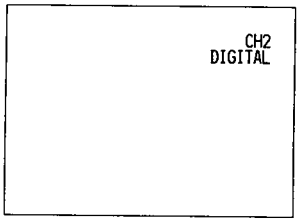


■ **Sound System selection**



NICAM system mode setting

If the TV system is set to B/G or I, NICAM DIGITAL SOUND can be received.
In some countries and/or with some stations, the television sound is broadcast using the digital NICAM system, instead of the conventional analog stereo sound system.



If DIGITAL STEREO appears on the screen for approximately 4 second:
The program is broadcast in NICAM stereophonic sound.
If DIGITAL appears on the screen for approximately 4 second:
The program is only broadcast in NICAM monaural sound.

NOTE:

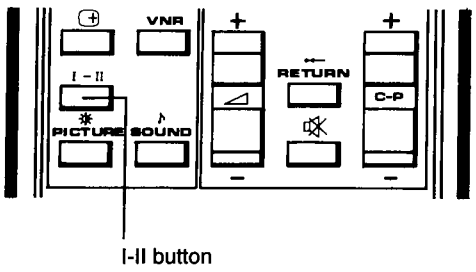
- *If the SOUND SYSTEM mode is selecting the SOUND SYSTEM AUTO, the Projection TV will automatically select the digital sound system instead of conventional sound system.*

- *In some countries, NICAM pilot signal is transmitted during the transmission of a programme with MONO sound:*
  In such cases the display will indicate DIGITAL STEREO instead of MONO.
  This is not fault condition. If in doubt, please check your TV programme guide.

The NICAM sound may be disturbed by hissing or crackling noises due to a weak station signal. This interference can be eliminated by switching over from NICAM to analog (conventional) FM mono reproduction.
In this case, switch the SOUND SYSTEM to SOUND SYSTEM MONO.

NICAM Dual sound reception

If DIGITAL appears on the screen:
The program is broadcast in two NICAM languages. You can select between the original language and second language digital audio signals by pressing the I - II button.



→DUAL I → DUAL II → DUAL I/II→

MULTI-CHANNEL TV SOUND (MTS)

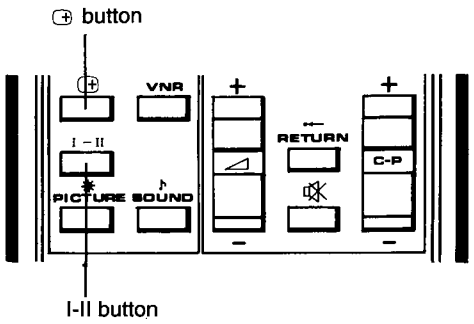
If the TV system mode is set to M., Multichannel TV sound system can be received.
A multichannel TV sound decoder is built into the Projection TV. This MTS decoder permits stereo and SAP sound reception (SAP is a "second audio program" often used for a second language). The MTS decoder is only effective if the broadcast includes stereo or SAP signals.

Stereo reception

If STEREO appears on the screen for approximately 4 seconds, the program is broadcasted in stereohonic sound. This decorder will select automatically between monaural and stereo according to the signals received.

Monaural reception

If you hear a lot of static while receiving the stereo TV program, set the SOUND SYSTEM to SOUND SYSTEM MONO mode.



SAP (Second Audio Program) reception

TV stations have the option of broadcasting a second audio program (SAP) signal. This additional sound channel accompanies another monaural signal or stereo signal. However, the SAP sound itself is in monaural.

Use the I - II button to switch to the MAIN/SAP setting if you wish to hear "second audio program" sound (at the MAIN/SAP setting, the SAP sound will come from the right loudspeaker while the left loudspeaker produces the main sound signal).
You will still hear stereo or monaural sound when there is no SAP signal.

NOTE:

- *Broadcast stereo and SAP reception operate in accordance with the Broadcast Television Systems Committee (BTSC) standard only. Stereo audio transmission from CATV (Cable television) systems can vary from area to area and may not be compatible with the BTSC standard. Check with your local cable company for specific compatibility requirements.*

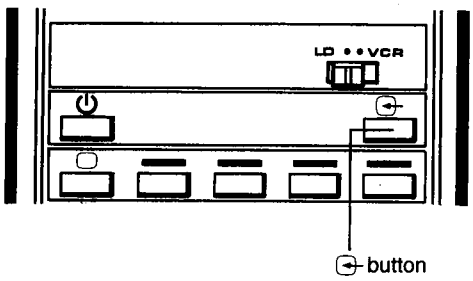
Audio Reception Mode Display (selected by the I-II button) for MTS

Mode selected \ Broadcasted mode		MONO + SAP	STEREO + SAP
MAIN	Display	CH 10 MAIN	CH 10 STEREO (SAP)
	REPRODUCTION mode	MONO (MAIN)	L and R
SAP	Display	CH 10 SAP	CH 10 SAP (ST)
	REPRODUCTION mode	SAP	SAP
MAIN/SAP	Display	CH 10 MAIN/SAP	CH 10 MAIN/SAP (ST)
	REPRODUCTION mode	L: MONO (MAIN) R: SAP	L: MONO (MAIN) R: SAP
MONO	Display	CH 10 MONO	CH 10 MONO
	REPRODUCTION mode	MONO	MONO

ADDITIONAL OPERATIONS

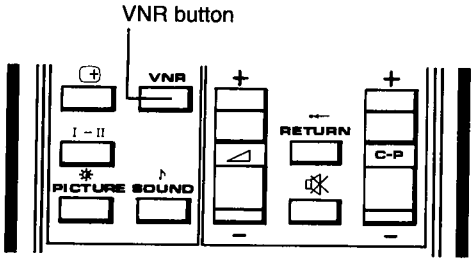
Input source selection

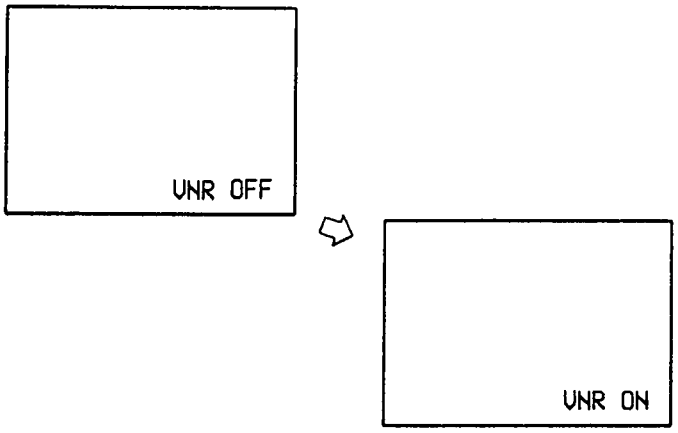
To select video input source step by step:
Press the ⊕ button on the control panel or the remote control unit repeatedly until the desired input source appears on the screen.



VNR (Video Noise Reduction) system operation

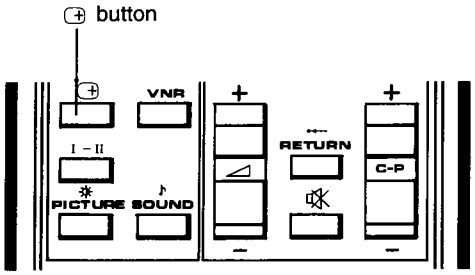
To improve picture quality with VNR while watching a TV program or prerecorded video cassette tape playback
VNR system will reduce noise contained in the video signal and improve the picture quality of TV programs or video tape playback pictures.
Press the button once to display the VNR mode (VNR ON or VNR OFF) on the screen, then press the button once or twice to select either VNR ON or VNR OFF.





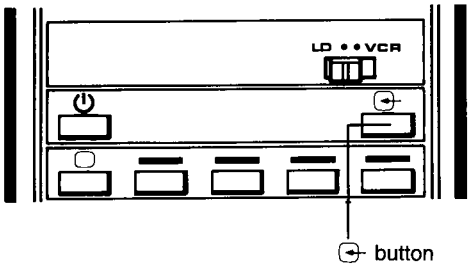
To confirm picture and sound information on the screen

Press the ⊕ button to display the information on the screen. Four seconds later, the information display will disappear.



To record from video equipment connected to the AV-1, AV-3 or AV-4 terminals to a video cassette recorder connected to the AV-2 terminals

(or record from the AV-1, AV-2 or AV-3 terminals to a video cassette recorder connected to the AV-4 terminals)



⊖ button

1 Turn the power on, and select the video source for playback by pressing the ⊖ button of the remote control unit.

2 Connect the recording video cassette recorder to the AV-2 connector.
   * If you wish to use the AV-4 terminals, connect the recording video cassette recorder to the AV-4 terminals.

3 Set the video cassette recorder to recording mode, then start playback of the video equipment connected to the AV-1, AV-3 or AV-4 connector.
   * If you are connecting the recording video cassette recorder to the AV-4 terminals, select an input source from the AV-1, AV-2 or AV-3.

NOTE:

- *When you switch the input source to AV-2 or AV-4 during recording, recording signals are not output from the AV-2 connector and AV-4 terminals.*

PICTURE AND SOUND ADJUSTMENT

The remote control unit has a PICTURE button and a SOUND button. These buttons allow you to adjust color, tint, contrast, brightness, sharpness, bass, treble, and balance.

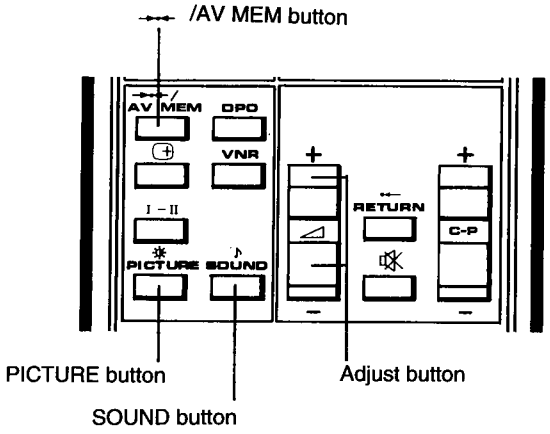
1. Press the PICTURE button or SOUND button untill the item to be adjusted appears.
2. Press the Volume + button to raise the value of the selected item. Press the — button to lower it.

Set each item to any value you like; the current value is shown on the screen.

Picture and sound adjustment mode will be cancelled approx. 4 seconds after the Volume + or — button is released.

NOTE:

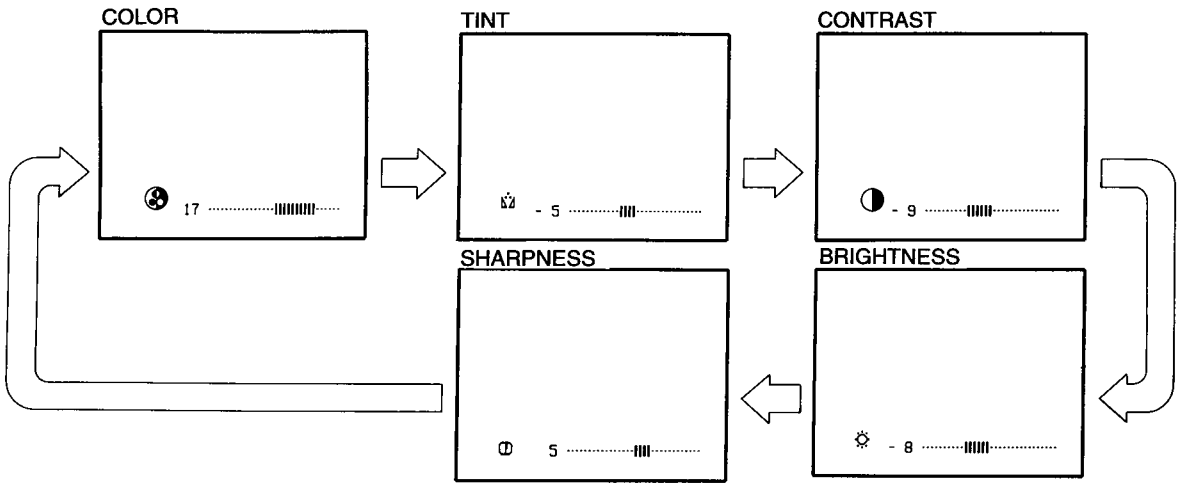
- *The Projection TV has been adjusted before shipping. Please make additional adjustments to suit your personal taste.*
- *These picture and sound quality settings can be stored in the AV MEMORY preset memory. See AV MEMORY on page 30.*
- *To return to the standard settings initially set at the factory, simply press the ⟷ /AV MEM button so that the screen shows STANDARD.*
- *The (Color), (Contrast) and (Brightness) adjustments cannot be selected while the DPO button is on. If you wish to adjust them, turn the DPO off.*



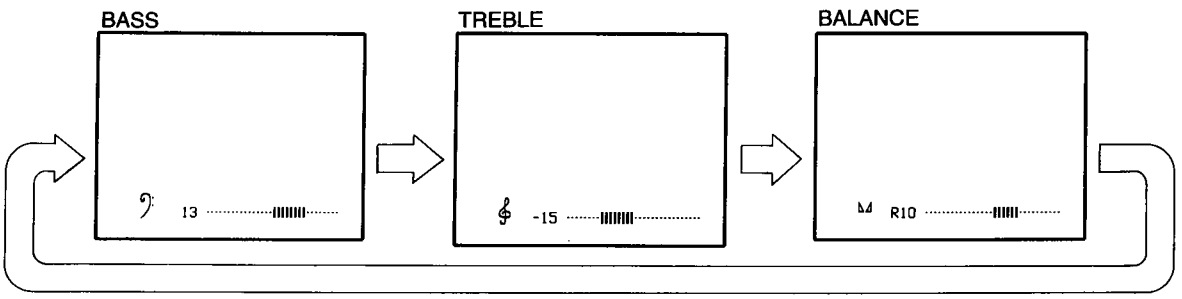
Temporary AV Memory recall

When the display disappears from the screen, the existing AV settings will be stored in the temporary memory mode. In this mode, the Projection TV's temporary AV memory settings will be restored when the power is turned on.

SCREEN INDICATIONS FOR PICTURE AND SOUND ADJUSTMENT



SCREEN INDICATIONS FOR SOUND ADJUSTMENT



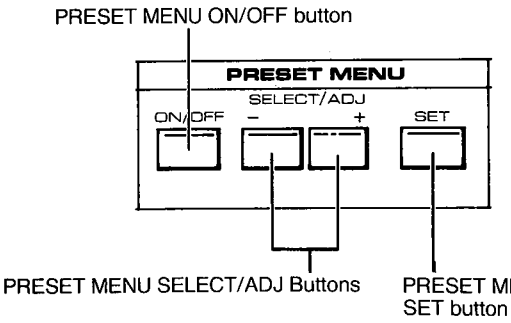
NOTES:

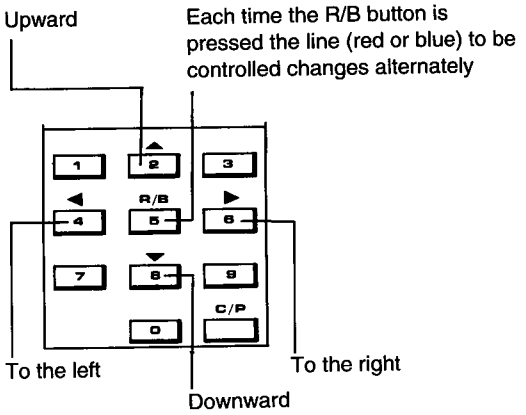
- *If the color seems abnormal but cannot be fixed by color or tint adjustment, then you may need to align the color convergence (see page 27).*
- *Bass and treble tone control adjustment range will be shown as a value between –32 and +31, and balance adjustment range will be shown as a value between L32 and R31.*
- *During the DPO adjustment and AV memory operation, 'DPO', 'STD', 'AV-1', 'AV-2', 'AV-3' or 'AV-4' will be shown on the left side of the screen. When the tone or picture quality controls are adjusted, these displays (except for the 'DPO' display) will disappear from the screen.*
- *The (Tint) adjustment is possible when the NTSC or 4.43 NTSC color system is selected.*
- *The Tint adjustment is available only if the NTSC or 4.43 NTSC color system is selected*

HOW TO ALIGN COLOR CONVERGENCE

This Projection TV uses three separate picture tubes — a red, a green, and a blue tube. The red, green and blue images are projected onto the screen where they converge to form a full color picture. If they do not converge correctly, then you will see colored borders around the images.
However, convergence may drift over time or if you move the Projection TV.
Follow the steps below if color convergence alignment is needed.

1. Turn on the power and select an active channel. Wait a moment for the picture to stabilize.
2. Press the PRESET MENU ON/OFF button on the control panel. The monitor screen displays the menu (CONVERGENCE, AV MEMORY, DPO BASE, VIDEO SYSTEM, COLOR SYSTEM, SOUND SYSTEM and STATIONS STORING).
   Make sure that "CONVERGENCE" is displayed in red. If not, press the PRESET MENU SELECT/ADJ buttons until "CONVERGENCE" turns red.
3. Press the PRESET MENU SET button on the control panel. If color convergence is correct, there will be one vertical white line and one horizontal white line, as in figure 1.
4. If you see separate colored lines (Fig. 2 to 4), use the R/B, ◀, ▶, ▲ and ▼ buttons on the remote control unit to make the red and blue lines disappear into the other lines.
   Each time the R/B button is pressed, the line to be controlled (red or blue) alternates.
   Pressing the ◀ button moves the vertical line to the left, while pressing the ▶ button moves the vertical line to the right.
   Pressing the ▲ button moves the horizontal line upward, while pressing the ▼ button moves the horizontal line downward.
   In figure 2, for example, press the R/B button to control the red line, and then press the ◀ button until the red line converges.
   Press the R/B button again to control the blue line, and then press the ▼ button until the blue line converges.
   Convergence is correct when all three colors (red, green and blue) converge, producing single white line.
5. Press the PRESET MENU ON/OFF button when convergence is correct.





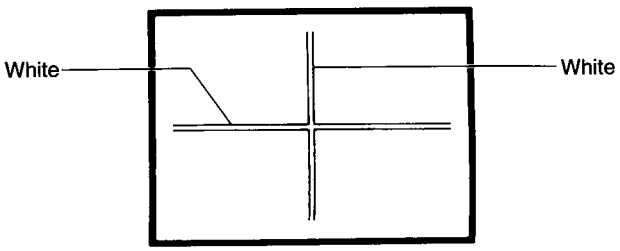


Fig. 1 Correctly aligned

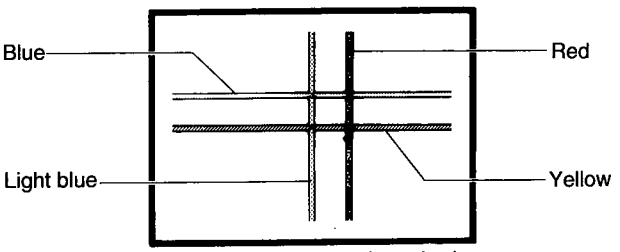


Fig. 2 Horizontal and vertical misalignment

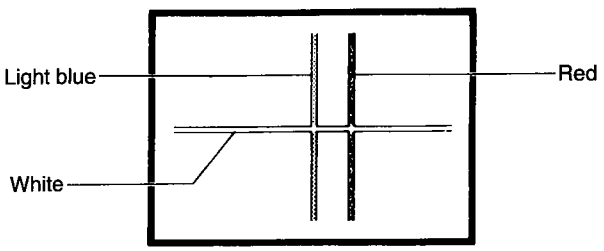


Fig. 4 Horizontal misalignment

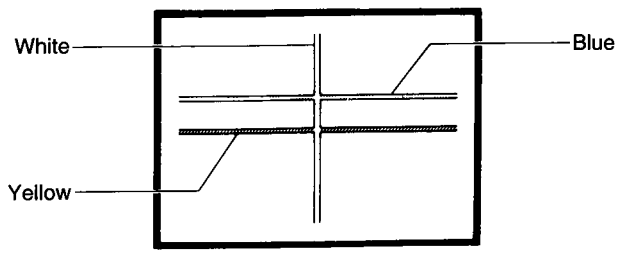
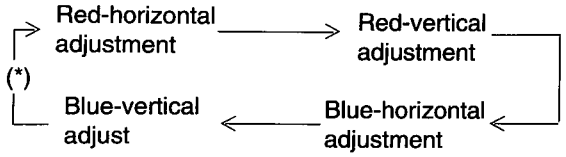


Fig. 3 Vertical misalignment

Color convergence alignment without using the remote control unit

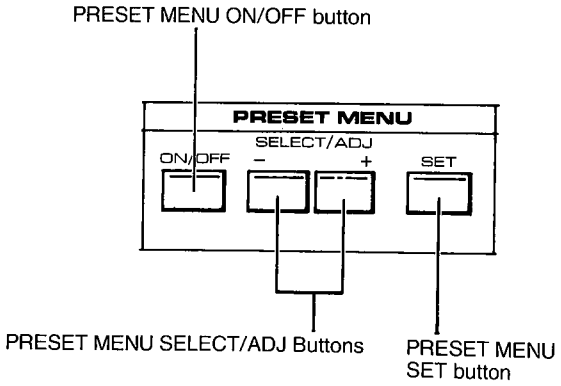
Color convergence adjustment can be performed by either the operation buttons of the remote control unit as described in operation 4 of the above procedures, or the PRESET MENU SELECT/ADJ buttons and PRESET MENU SET button on the control panel as described below:

① **Press the PRESET MENU SET button to select the adjustment mode. The adjustment modes appear in the following order:**
- Convergence adjustment test pattern and arrow will appear on the screen accordingly.



* Alignment proof mode; selected image only appears.

② **Use the PRESET MENU SELECT/ADJ buttons as follows:**
During Red or Blue Vertical adjustment
Press the + button to move the horizontal line upwards.
Press the – button to move the horizontal line downwards.
During Red or Blue Horizontal adjustment
Press the + button to move the vertical line to the right.
Press the – button to move the vertical line to the left.



DPO ADJUSTMENT

When the DPO (Dynamic Picture Optimizer) switch is on, the Projection TV automatically adjusts the contrast, brightness and color to match room lighting conditions. This is done according to factory preset specifications which ordinarily do not need to be changed. However, if the DPO is giving you too bright or too dim a picture, you can change its response by following these directions.

DPO adjustment is necessary under the following conditions.

Room conditions	TV screen condition	Adjustment
Dim light	Too much brighter than room lighting	DPO DARK Adjustment
Bright light	Dark TV screen (Picture cannot be seen clearly)	DPO LIGHT Adjustment

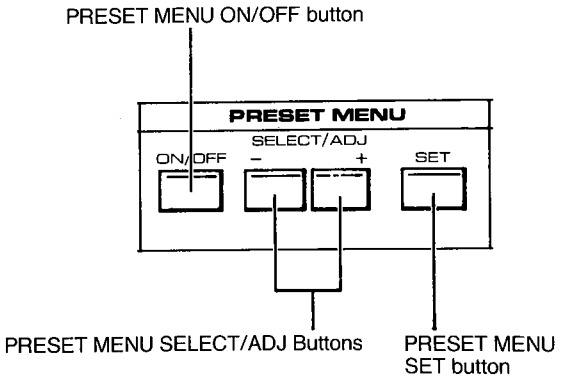
1. Under dim or bright room lighting conditions, watch a TV show, video tape or video disc.
2. Turn on the PRESET MENU ON/OFF button and press the PRESET MENU SELECT/ADJ buttons until the DPO BASE display turns red.
3. Press the PRESET MENU SET button. "DPO LIGHT" and "DPO DARK" appear on the screen.
4. Press the PRESET MENU SELECT/ADJ buttons to select the adjustment as follows:
   Bright room → select DPO LIGHT
   Dim room → select DPO DARK
5. Press the PRESET MENU SET button. "◉ (Color)", (" ◑ (Contrast)" and " ☼ (Brightness)") appears on the screen.
6. Press the PRESET MENU SELECT/ADJ buttons to adjust the " ◉ (Color)".
7. Repeat steps [5] and [6] to adjust the other two adjustment items " ◑ " (Contrast) and " ☼ " (Brightness).
8. Press the PRESET MENU ON/OFF button after all adjustments are completed.

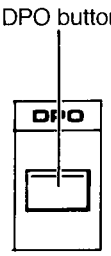
On the DPO system and AV MEMORY system

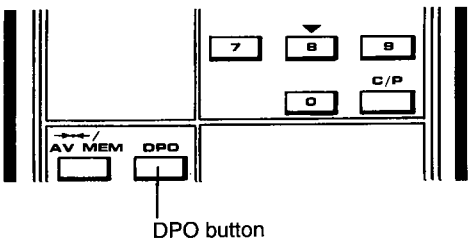
When the DPO system is turned off, the Projection TV picture will be set according to its original picture data (reference AV MEMORY data, memorized AV MEMORY 1, 2, 3 or 4 data).
When the DPO system is turned on, the Projection TV picture will be set according to a combination of the original AV MEMORY data (reference AV MEMORY data, AV MEMORY 1, 2, 3 or 4 data) and the DPO adjustment data.

Attention
The following picture adjustments should not be performed when the DPO system is engaged.
They are automatically adjusted to the proper level by the DPO microcomputer according to lighting conditions when the system is turned on.
If you wish to adjust these items, turn the DPO system off before making adjustments.

- ◉ (COLOR)
- ◑ (CONTRAST)
- ☼ (BRIGHTNESS)





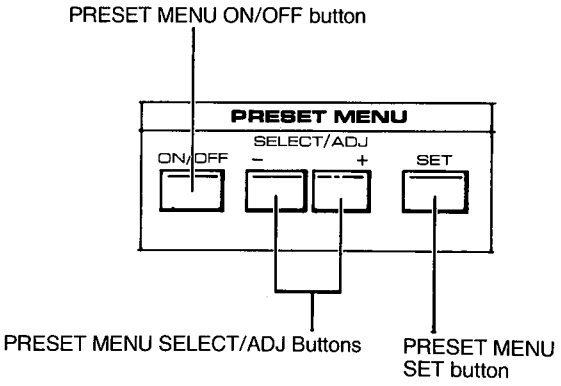


AV MEMORY

After making adjustments, you can store your picture and tone quality settings in the 4 AV MEMORY presets. Follow the procedure below.

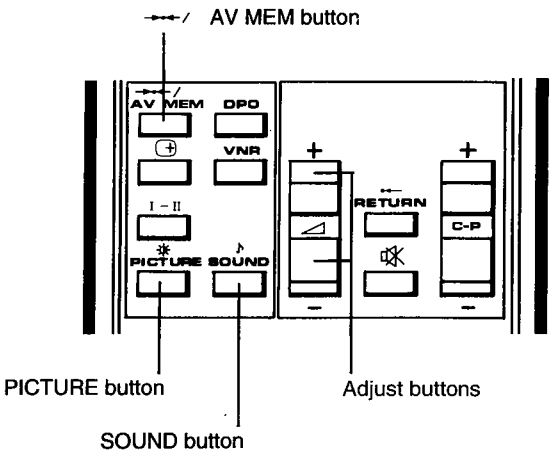
Storing a Setting

1. Watch a TV show, video tape or video disc.
2. Adjust the picture and tone using the PICTURE button, SOUND button and ADJUST buttons.
3. Turn on the PRESET MENU ON/OFF button, and press the PRESET MENU SELECT/ADJ buttons until the AV MEMORY display turns red.
4. Press the PRESET MENU SET button.
5. Press the PRESET MENU SELECT/ADJ buttons to select the AV memory (AV MEMORY 1, 2, 3 or 4) in which the setting is to be stored.
6. Press the PRESET MENU SET button.
7. Press the PRESET MENU ON/OFF button to store the setting in AV memory and to return to normal operation.



Recalling a Setting

Press the ⊷ /AV MEM button on the remote control unit.
Each press of the ⊷ /AV MEM button moves the selection from STANDARD to AV MEMORY 1, to AV MEMORY 2 to AV MEMORY 3, to AV MEMORY 4 and then back to STANDARD again.
(Press the button while the previous legend is still on the screen. Otherwise, it will return to the STANDARD setting.)

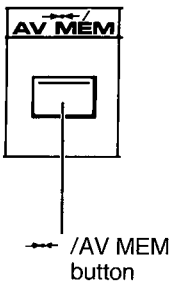


Returning to the Standard Setting

Press the ⊷ /AV MEM button so that the screen shows STANDARD.

Recalling a setting with the ⊷ /AV MEM button on the control panel

Press the ⊷ /AV MEM button repeatedly to recall a setting, as described above for the remote control operation buttons.



NOTE:

- *Adjustments made to the AV memory, bass and treble tone, etc. will only affect the output from the (Audio output: Variable) jacks.*
  All other signals output from the Projection TV will be unaffected. Only the original output signal is sent through the Projection TV output jacks.

On the AV Memory assignment

AV memory can be assigned to a selected input source: TV, AV-1, AV-2, AV-3 or AV-4. For example, the AV memory settings for TV can be stored in the STANDARD mode, AV3 settings in AV MEMORY 1, and AV1 settings in AV MEMORY 2.
To select the desired input source press the ⊕ button, then press the ⊷/AV MEM button repeatedly to recall the desired settings.

SELECTING THE COLOR SYSTEM

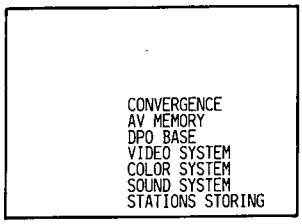
This Projection TV can display an NTSC 4.43 (Modified north American)-based color video source if your video equipment also has this feature. You can watch NTSC 4.43-based prerecorded tapes on the Projection TV. The Projection TV can select the color mode automatically between PAL, SECAM, NTSC and NTSC 4.43 depending on the playback video source.

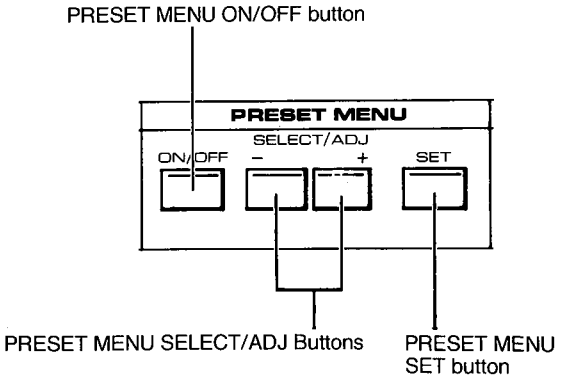
1. Press the input selector for the video source you wish to watch, or press the numeric buttons to select the desired TV channel.
2. Press the PRESET MENU ON/OFF button to turn on the preset menu display.
3. Press the PRESET MENU SELECT/ADJ buttons repeatedly until COLOR SYSTEM turns red.
4. Press the PRESET MENU SET button to select the color system setting.
5. Press the PRESET MENU SELECT/ADJ button to select the desired color system; PAL,SECAM, NTSC or 4.43 NTSC. Select the AUTO color system mode if you wish to watch the PAL, SECAM, NTSC or 4.43 NTSC systems without having to perform any color system selecting operations.
6. After selecting the color system mode, press the PRESET MENU SET button to memorize the mode.
7. Press the PRESET MENU ON/OFF button to remove the preset menu from the screen.

NOTE:

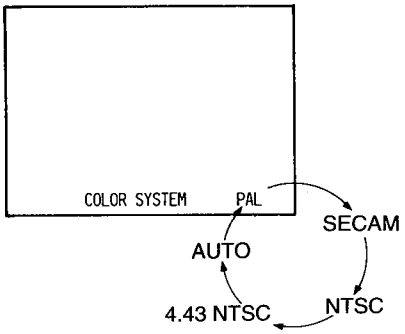
- *Poor signal quality prerecorded tapes will cause unstable picture reproduction and an off-color picture will be seen. This is not a malfunction of the Projection TV.*

■ Preset menu





■ Color system mode selection



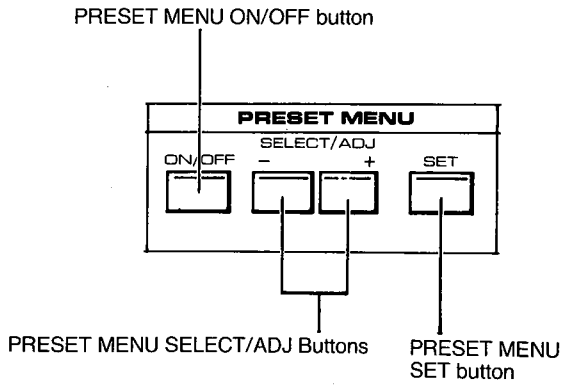
VIDEO SYSTEM SETTING

This operation will select the input source of the AV-1 and AV-2 EURO connectors and AV-3 and AV-4 CINCH SOCKETS of the Projection TV. This selection determines what video input system will be used when the AV-1, AV-2, AV-3 or AV-4 is selected. If your connected video equipment has S-VIDEO features, select S-VIDEO video input system for the best picture quality reception. This Projection TV offers the following video input systems.

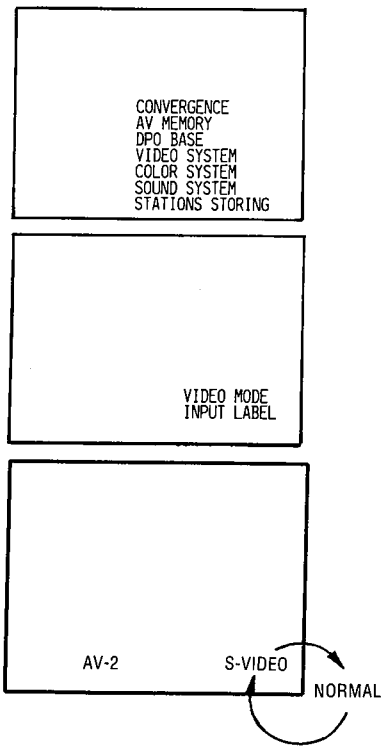
S-VIDEO: Separated Luminance and Chrominance video signal input.
NORMAL: Standard composite video signal input.

1. Turn on the power.
2. Press the ⊕ button to select the input source for which you wish to set the video input system.
3. Press the PRESET MENU ON/OFF button to display the preset menu on the screen.
4. Press the PRESET MENU SELECT/ADJ buttons repeatedly until VIDEO SYSTEM turns red.
5. Press the PRESET MENU SET button to select VIDEO SYSTEM.
6. Press the PRESET MENU SELECT/ADJ buttons until VIDEO MODE turns red.
7. Press the PRESET MENU SET button to select VIDEO MODE.
8. Press the PRESET MENU SELECT/ADJ buttons to select the desired video input system as follows:
   NORMAL: Composite (Mixed) video input system is selected.
   S-VIDEO: Separated luminance and chrominance video input system is selected.
9. After selecting the video input system, press the PRESET MENU SET button to memorize the setting.
10. Press the PRESET MENU ON/OFF button to remove the preset menu from the screen.

NOTE:
- *Most video equipment uses the composite video input system.*
- *When using AV-3 and AV-4 S-VIDEO terminals to connect video equipment, the S-VIDEO video mode must be selected.*



■ **Preset menu**



RGB operating mode

This operating mode is provided for connection of satellite decoders, home computers, video games, interactive video text decoders, etc. Connect to the AV-1 socket.

If the other unit supplies an RGB signal for internal or external synchronization using a switching voltage, you can assign the appliance in question to a Program Number 1-64 (for details, refer to the operating manual of the other unit).
If the other unit supplies an RGB signal for external synchronization using a switching voltage, you can assign the appliance in question to AV-1.(for details, refer to the operating manual of the other unit).
Before switching over from RGB to television mode, switch off RGB signal source.

STATIONS STORING

Refer to the television channel table before using the TV stations storing feature.
See pages 45 to 47 "TV CHANNEL SELECTION."

1. Turn the Projection TV on and select a TV station.
2. Press the PRESET MENU ON/OFF button to turn the operation menu on. Operation menu will appear on the screen.
3. Press the PRESET MENU SELECT/ADJ buttons until STATIONS STORING turns red, and then press the PRESET MENU SET button.
4. Press the PRESET MENU SELECT/ADJ buttons until STATION PRESET turns red, and then press the PRESET MENU SET button. Press the PRESET MENU SELECT/ADJ button to select the desired program number. Selected program number will flash on and off, and then press the PRESET MENU SET button.
5. Press the PRESET MENU SELECT/ADJ buttons to select the TV channel as follows:
   Use the + button to increase channel number.
   Use the – button to decrease channel number.
6. Select a channel table under which you wish to store stations by pressing the TV SYSTEM button repeatedly.
7. Press the TV SYSTEM button repeatedly until the desired TV system appears on the screen. If you wish to select D/K system, press the TV SYSTEM button repeatedly until D/K appears on the screen, for example.
8. Press the PRESET MENU SET button to store the TV channel and TV system.
   If you wish to continue the operation, repeat steps 5 thru 8 above.
9. Press the PRESET MENU ON/OFF button when you finish TV station storing.

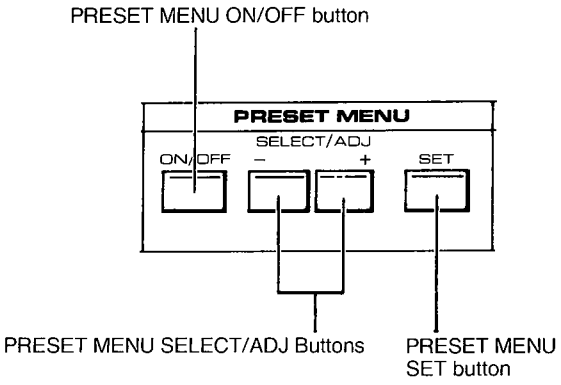
If you wish to replace or reenter a TV channel

Repeat steps 2 thru 9 above.

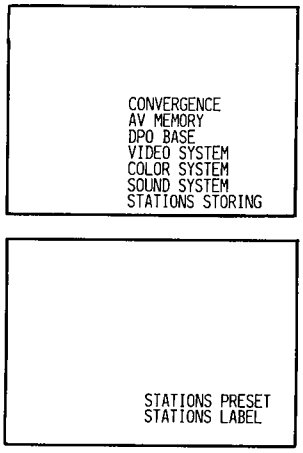
If you wish to directly enter the channel number during TV station presetting

Use the numeric buttons of the remote control unit instead of the PRESET MENU SELECT/ADJ buttons of the Projection TV.

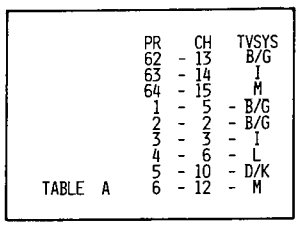
1. After setting the Projection TV in TV station presetting mode, follow steps 1 thru 4 above.
2. Press the numeric buttons as follows:
   Example
   To preset channel 8: Press the 8 button.
   To preset channel 40: Press the 4, then the 0 (zero) buttons.
   To preset channel 33: Press the 3 button twice.
3. Press the PRESET MENU SET button to store the TV channel.



■ Preset Menu



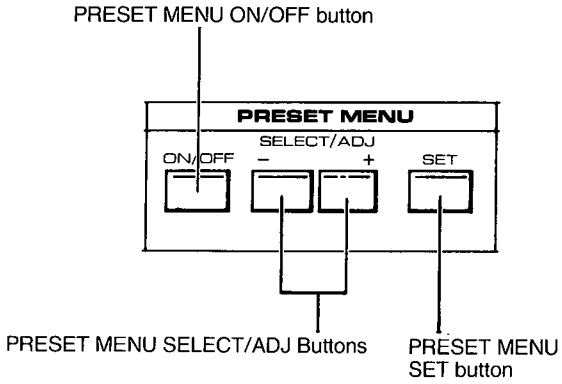
■ Stations Storing Menu



If you wish to delete a programmed TV channel

1. After setting the Projection TV to the TV station presetting mode, follow steps 1 thru 4 on page 33.
2. Press the 0 (zero) button, or press the PRESET MENU SELECT/ADJ buttons until "0" appears on the channel display.
3. Press the PRESET MENU SET button to delete the TV station.

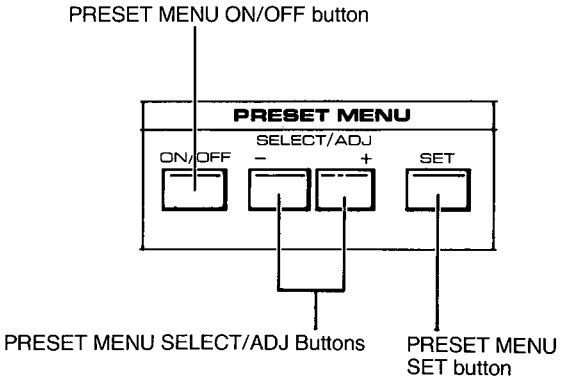
To program a number after it has been deleted from the memory:
Reenter the channel under the deleted program number.
Refer to page 33.

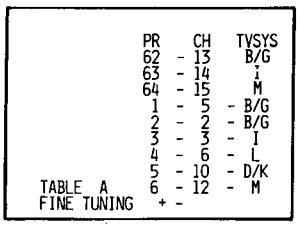


Fine tuning for the programmed TV channels

You can store the precise tuning setting of programmed TV channels by following the instructions below:
In areas with poor reception and in the case of stations where the transmission frequencies deviate from those given in the channel tables, it may prove necessary to improve the picture and sound quality by fine tuning.

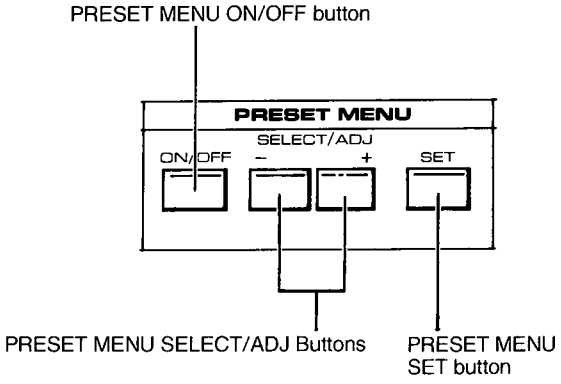
1. Press the "0" through "9" numeric buttons to input the desired channel you wish to finely tune it.
2. Press the PRESET MENU ON/OFF button to turn the operation menu on. Operation menu will appear on the screen.
3. Press the PRESET MENU SELECT/ADJ buttons until STATIONS STORING turns red, and then press the PRESET MENU SET button. Press the PRESET MENU SELECT/ADJ buttons until STATIONS PRESET turns red, and then press the PRESET MENU SET button. The selected program number will flash on and off.
4. Press the FINE TUNE button. The fine tuning display will appear on the screen.
5. Press the + or –button repeatedly until the picture and sound are as clear as possible.
6. When the fine adjustment is completed:
   Press the FINE TUNE button or PRESET MENU SET button again.



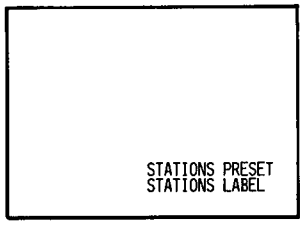


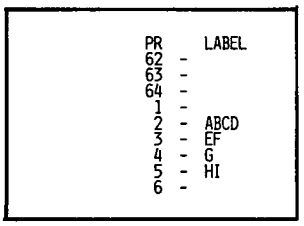
USING THE STATION LABEL FUNCTION

The station label function can be used to label each station with a call sign, network name, etc. For example, 'ABCD' can be displayed on the screen when the 'PR 1' is selected. The station label can be up to 4 characters long using the 52 characters, including __ (space) listed below.



1. Turn on the Projection TV and select a PR number you wish to label.
2. Press the PRESET MENU ON/OFF button to turn on the operation menu.Operation menu will appear on the screen.
3. Press the PRESET MENU SELECT/ADJ buttons until STATIONS STORING turns red, and then press the PRESET MENU SET button.
4. Press the PRESET MENU SELECT/ADJ buttons until STATIONS LABEL turns red, and then press the PRESET MENU SET button. Selected program number turns red.
   Press the RESET MENU SET button.
5. Press the PRESET MENU SELECT/ADJ buttons to select the desired character.
   * Press the + or – button repeatedly until the desired character appears.
6. Press the PRESET MENU SET button to set the selected character.
7. If you wish to select additional characters, repeat steps 5 and 6.
8. Press the PRESET MENU ON/OFF button once when you finish inputting all of the desired station labels.





NOTES:

- *The following 52 characters, including __ (space), can be selected.*

→ABCDEFGHIJKLMNOPQRSTUVWXYZÄÖÜÆØÅÑÉÇ0123456789:<> – . , □

Space

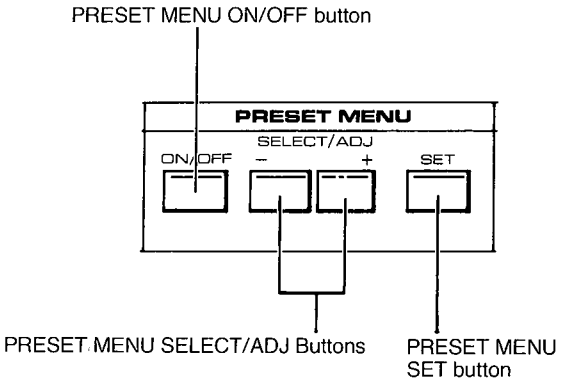
- *Be sure to press the PRESET MENU SET button after selecting the character.*

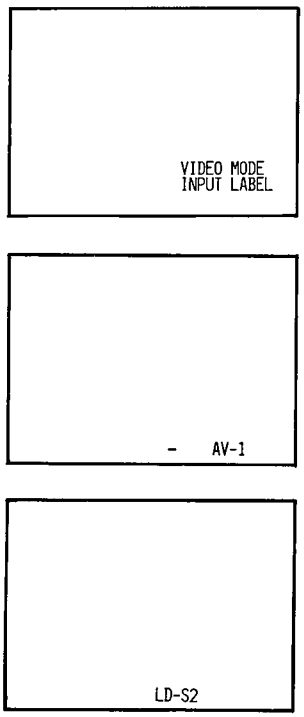
HOW TO RELABEL INPUT DISPLAYS

The input label function can be used to replace the input displays, such as AV-1 or AV-2, with the model numbers or model names of the equipment that are connected to the Projection TV. For example, you can display 'LD-S2' on the screen when selecting the AV-1 input source.
The input label can be up to 8 characters long using the 52 characters, including ___ (space), listed below.

1. Turn on the Projection TV and select the input (AV-1, AV-2, AV-3 or AV-4) that you wish to replace with the model number of the equipment connected to the Projection TV.
   Example: Replacing the AV-1 display with model number 'LD-S2'.
2. Press the PRESET MENU ON/OFF button, and then press the PRESET MENU SELECT/ADJ buttons until the VIDEO SYSTEM display turns red, and then press the PRESET MENU SET button.
3. Press the PRESET MENU SELECT/ADJ buttons until the INPUT LABEL display turns red.
4. Press the PRESET MENU SET button. 'AV-1' will appear in the right-hand corner of the screen.
5. Press the PRESET MENU SELECT/ADJ buttons to select the desired character.
   * Press the + or – button repeatedly until the desired character appears.
6. Press the PRESET MENU SET button to set the selected character.
7. If you wish to select additional characters, repeat steps 5 and 6.
8. Press the PRESET MENU ON/OFF button once when you finish replacing the input labels.

You can display the model number by pressing the ⊕ button on the remote control unit or the front panel of the main unit.





NOTES:

- *The following 52 characters, including ___ (space), can be selected.*

>ABCDEFGHIJKLMNOPQRSTUVWXYZÄÖÜÆØÅÑÉÇ0123456789:<>–.,□

Space

- *Make sure to press the PRESET MENU SET button after selecting the character.*

TELETEXT FUNCTIONS

What you need to know about the text mode

Button functions

≡	Switch over to the text program.
▢	Switch back to the TV program.
≡i	Call up the overview page (list of contents).
≡▶	Browse forwards in the multipage memory.
◀≡	Browse backwards in the multipage memory.
≡▲▼	Double the character height on the top or bottom half pages.
≡–	Return to normal character height.
≡▼	Halt and browse further in multiple pages.
≡X	Call up TV picture in text mode.
⊏≡	Mix text and TV programs.
≡?	Call up solutions.
◕	Enter a preselection page.
≡››	Switch over the multipage memory to multiple page mode. Operate this button only when a multiple page is being received.
TOPTEXT/ FASTEXT	Colored buttons for the TOPTEXT and FASTEXT systems.

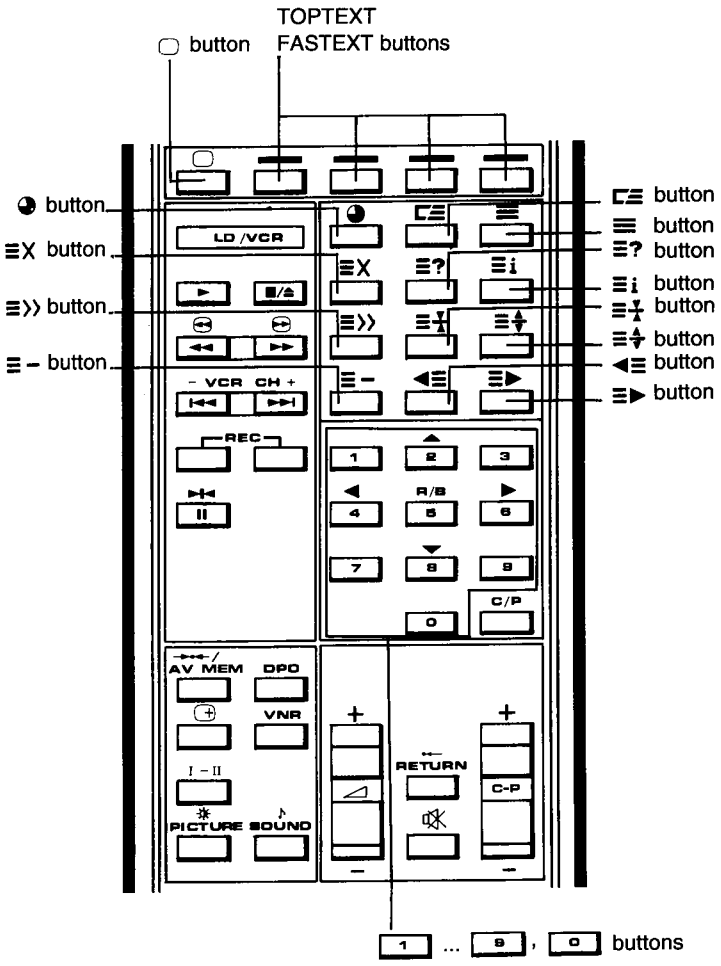
Text functions

Text programs are given different designations in different countries, e.g. VIDEOTEXT or TELETEXT. The contents are sometimes called pages, sometimes panels.
In some countries text programs are broadcast in the TOPTEXT or FASTEXT system.
Text programs require a good antenna system. When reception conditions are poor, text pages may be received incompletely or not at all. For this reason, if you have a choice of stations for the same program, always choose the most powerful one.
Perform fine tuning at the Projection TV so as to ensure that you obtain the best possible TV reception. For details, see page 19.

Text programs are only transmitted together with a TV program or a test picture. Therefore, always proceed as follows:
A First select the TV program.
B Then switch over to the text program.

The text decoder of the Projection TV can store in memory several text pages simultaneously. The multipage memory allows you to call up adjacent text pages (such as news or program overviews) which may be related subjectwise, without appreciable waiting time, and also (with the TOPTEXT and FASTEXT systems) to select pages using a color menu.

TELETEXT functions do not operate immediately after turning on the power or changing the input mode.
A few seconds are required before operation can begin.



The most important text functions

[1] Switching over to the text program.
In order to switch over from TV to text program, press the ≡ button.

[2] Calling up the list of contents.
Press the ≡i button for calling up the overview page as required. Any text pages that have been on the screen so far will be erased as soon as the text system has found the overview page.
Use the numeric buttons to select text pages, or follow the instructions given on pages 39 and 40 (for TOPTEXT programs), or the color menu (for FASTEXT programs).
To utilize the other text functions, proceed in accordance with the instructions given on the following pages of this operating instructions manual.

[3] Switching back to the TV program.
In order to switch back to TV reception, press the ▢ button. Now you can, for instance, switch over to another TV program, and then to its text program.

Page selection

The individual text pages are selected by entering the corresponding page numbers.

[4] Use the numeric buttons 1 to 9 and 0 (zero) to enter the three-digit code for the desired page. You will see your input on the left of the header line, and next to it on the right the page number run-through. Run-through will not commence until the complete code has been entered.
The color of the page counter in the header line will change to white as soon as the selected page appears on the screen.
Should it not be possible to enter the three-digit code, check whether the ◕ button for time preselection has been pressed by mistake. To do this, press the ◕ button again.

For more details, see page 41, "Browsing in text pages".

Page selection in the FASTEXT system

Different subject areas are marked by different colors on the text pages; these colors also appear on the remote control unit.

[5] For information selection, you only need the colored FASTEXT buttons on the remote control unit.
Use the appropriate colored button to select the desired subject area while still in the overview page.
Select all following pages (wherever possible) by means of the color menu. This method enables you to call up a mass of information easily and quickly.

If you change from one subject to the next with the FASTEXT buttons, the following page always appears immediately on the screen unless you press several buttons in rapid succession during a lengthy search procedure.

If a text page appears without color menu, you must select a text page using the numeric buttons or call up the list of contents. For details, see steps 4 and 2 respectively.
To leave the FASTEXT system and to browse in text pages without a color menu, press the ≡▶ or ◀≡ button (see page 41, "Browsing in text pages").
To reenter FASTEXT mode, press the ≡i button.

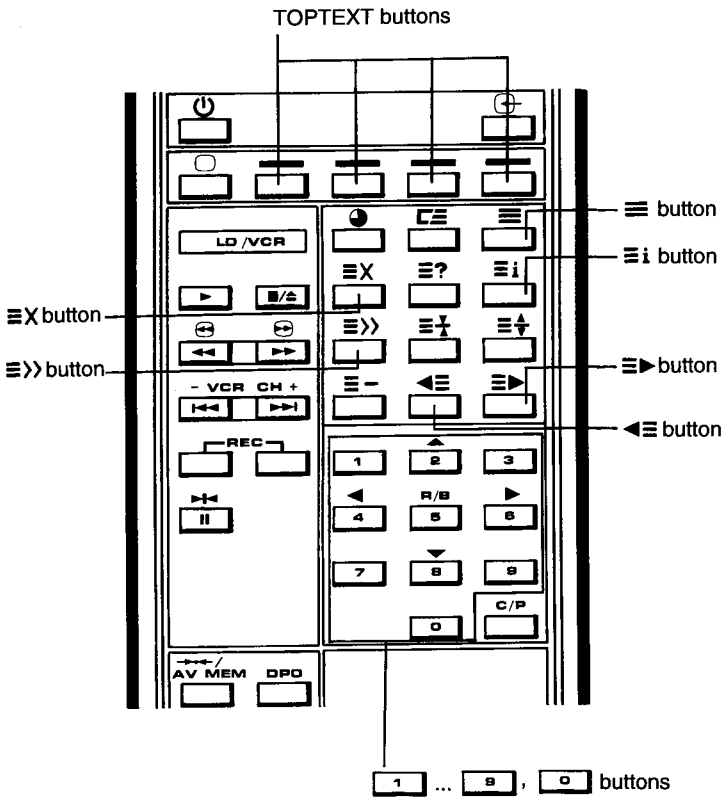
TOPTEXT system

Overview

The TOP system enables you to select text pages easily and quickly by means of menu prompting, using the colors in the bottom line of the menu (below the text page) for this purpose. These colors also appear on the remote control unit.
After the Projection TV has been turned on and switched immediately over to a text program of the TOPTEXT system, at first only the menu colors appear on the screen. The colored buttons are still inoperative.
As soon as the TOPTEXT system has been loaded (after 30 seconds at the latest), text will appear in the color menu. The colored buttons are now operative.
The colored buttons enable you (with no waiting time)

1. To select subject areas using the Blue button.
2. To select subjects using the Yellow button.
3. To browse forwards and backwards within individual text pages:
   Green button = P+ = forward.
   Red button = P- = backwards.

Fast page selection is provided by the TOP (Table Of Pages) Table. This table is automatically read into the digital text decoder of the Projection TV when a program with TOPTEXT system is selected. The Projection TV takes from this table all requisite details on text pages contained in the program, plus the beginning of subjects and subject areas.
As soon as a page has been selected, the Projection TV recognizes which is the next or the previously single page you can select, and which is the next subject or the next subject area you can select.



Operation

1 Subject areas.
Use the Blue button to browse through the subject areas consecutively, e.g.

P–	P+	POLITICS	NEWS ↓
P–	P+	ECONOMICS	SPORTS ↓
P–	P+	1ST PROGRAM	TV-PROGRAM

Once you are within the subject area selected, you can continue directly with step 2 or 1.
If a particular subject area selected is not subdivided into individual subjects, the yellow file will be empty and step 2 with the Yellow button cannot be performed, meaning that you go on directly to step 3.
The menu line displays the next selection option in each case, e.g.

P–	P+	ECONOMICS ↓	SPORTS
P–	P+	CULTURE	SPORTS ↓
P–	P+	2ND PROGRAM	NEWS

2 Subjects.
Use the Yellow button to browse through the subjects of the selected area, as shown below.

P–	P+	POLITICS ↓	SPORTS
P–	P+	ECONOMICS ↓	SPORTS
P–	P+	CULTURE ↓	SPORTS
P–	P+	POLITICS	SPORTS
or			
P–	P+	FOOTBALL ↓	TV-PROGRAM
P–	P+	HANDBALL ↓	TV-PROGRAM
P–	P+	TENNIS ↓	TV-PROGRAM
P–	P+	ATHLETICS ↓	TV-PROGRAM
P–	P+	FOOTBALL	TV-PROGRAM

3 Page selection.
You can use the Green button to browse forward through the individual pages of a subject, and the Red button to browse through them backward, as shown below.

P–	P+	FOOTBALL	TV-PROGRAM
	↓		
P–	P+	FOOTBALL	TV-PROGRAM
	↓		
P–	P+	FOOTBALL	TV-PROGRAM
↓			
P–	P+	FOOTBALL	TV-PROGRAM

Note that it does not matter whether pages are assigned consecutively, e.g. 101, 102, 103, 104 ..., or whether there are gaps in between, e.g. 101, 106, 118, 122 ... The TOP system will always recognize which is the next page to be opened.
Starting from the selected page, the text decoder stores the next 9 pages for forward browsing, while for backward browsing it stores the 4 preceding pages.

4 Conventional page selection.
If a page is selected using the numeric buttons, there may be (depending on the standard involved) a waiting time until the page appears on the screen.
When the page appears on the screen, the menu line shows the next subject (yellow) and the next subject area (blue) you can select.
If there is no page in the program for the page number you have selected, the menu line will flash, and the red color field will be empty, e.g.:

□ P+ FOOTBALL SPORTS
The selected page number is lit up in red.

5 Multiple pages in the TOPTEXT system.
See pages 41 and 42 for information on the automatic browsing function and on browsing in multiple pages in conventional text systems.
For the browsing function in multiple pages in the TOPTEXT system, the following functions are operative:
After the ≡›› and ≡X buttons have been pressed, the number of the currently stored single pages will appear in the TV picture instead of the header line.
With multiple pages up to 9 single pages, the complete header line will reappear as soon as the last single page has been stored.
With multiple pages of 10 and more single pages, the header line will reappear as soon as all memories have been filled.
After the header line has appeared an the ≡ button has been pressed, you can browse back and forth between the single pages using the ≡► and ◄≡ buttons.
If you press the ≡›› button, although no page is available for this page number for the TOPTEXT system to hold, the selected page number will flash briefly in red.

6 Quitting multiple pages in the TOPTEXT system.
Press the ≡i button, or enter a new page number.

Browsing in text pages

The following functions are for text programs and text pages without color menu.

Browsing in text pages

[1] Press the ≡► button to browse forward, or press the ◄≡ button to browse backward.

The adjoining page number is available with no waiting time.
After you have selected a text page, the multipage memory will store a whole block of 14 consecutive pages.
For example, selection and display of page 401:
pages 402 - 407 will automatically be stored in memory;
browsing to 408 and display of this page:
pages 409 - 414 will automatically be stored in memory.
After that, you can browse back and forth between pages 401 - 414 with no waiting time.
If after you have changed from one text program to another you do not select a new page, the new program contents for the previously selected 14 page numbers will be automatically filed in the multipage memory. If, however, one of these page numbers does not have any program contents, the contents of the same page number of the previously selected text program will appear on the screen. This is indicated by the page counter running through continuously, so that no confusion of text programs can occur.

Automatic browsing and halting of multiple pages

With multiple pages, several single pages are being transmitted one after the other under the same page number.
Multiple pages are often marked >>, >, 1/4 or 01/04, depending on the text system and program involved.
These multiple pages will be browsed through automatically at 20 to 30-second intervals, depending on the station concerned. The single page number and the total number of pages are frequently indicated by codes such as 01/04.

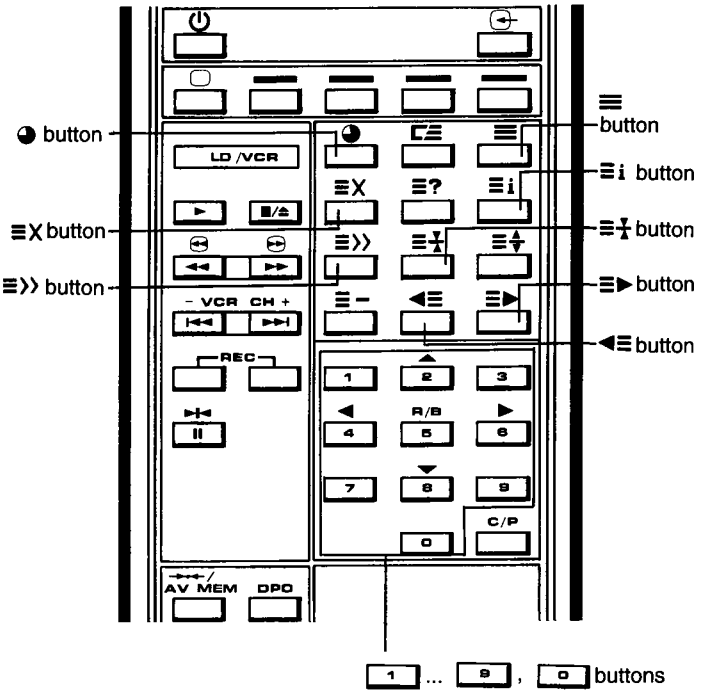
[2] To halt at a single page, press the ≡↕ button as required. The header line now displays STOP instead of the page number. The halted page can be kept on the screen as long as you wish. To resume browsing, press the ≡↕ button once more. You can, however, also select another page number to quit the halted single page.

Single pages can also be called up selectively. For details, see "Entering a preselection page".

Browsing in multiple pages without color menu

You can also browse through multiple pages independently of the automatic browsing intervals.

[3] If the page number of a multiple page has been entered, press the ≡›› button. The display of the selected page number on the left of the header line will change from ... to > ... One of the single pages will appear on the screen. The procedure for filling the memories with the remaining single pages can take up to 6.5 minutes, due to the standard involved.



[4] While this procedure is being performed, you can watch TV. To do this, press the ≡X button. ≡X display will appear instead of the header.

[5] As soon as the header line is again being superimposed onto the picture, press the ≡ button.

[6] Now all single pages have been filed in the multipage memory, and you can browse back and forth between them using the ≡► and ◄≡ buttons.

If a multiple page consists of less than 14 single pages, the same contents will be assigned to single page memories.
If a multiple page contains only 5 single pages, for example, you can press the ≡ button (for browsing using the ≡► and ◄≡ buttons) as soon as the memory display on the screen shows 5.

If a multiple page contains more than 14 single pages, it is browsed through in the last memory which displays the number > ... of the selected page in the header line in yellow, at 20 to 30-second intervals as usual.

[7] To quit the browsing mode, just enter a new page number.

In multiple pages of FASTEXT programs, no color menu is displayed.

Entering a preselection page

Depending on the countries and text programs involved, the following preselection function options are available:

Calling up a single multiple page

This function is only possible when the screen is displaying a multiple page, e.g. with >> and 01/04.

Text at a preselected time

For a text page, such as alarm clock, you can preselect the time at which you want to see it.
This function is operative only in some text programs, and only for one page.

Entry

1 Enter the page number desired.

2 Press the ◕ button.
Instead of the page number, you will now see * in the header.

3 Enter the desired single page number in four-digit form, e.g. 0003 or enter the desired time in four-digit form, e.g. 1715 or 0830.

4 If you want to watch TV until the selected page appears, press the ≡X button. ≡X display will appear in the picture. When the single page (or the time) is reached, the header line will appear on the picture, sometimes the whole text page as well.

5 Press the ≡ button to read the page.

6 Press the ◕ or ≡i button to quit this text function.

Additional text functions

1 Mixing program contents

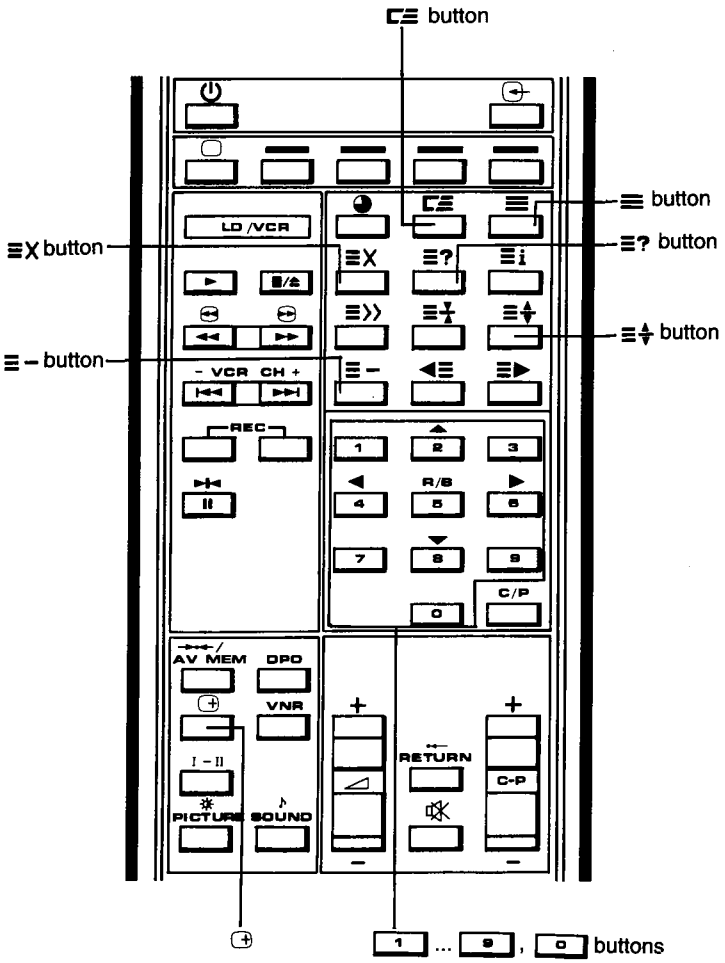
To mix the program contents, press the ≡ button, and press the ⊏≡ button again to cancel this function.

2 Latest news

Latest news items are superimposed onto the picture on special pages. News you have read can be erased by pressing the ≡X button. ≡X display will appear in the picture. With the text news update, a new text will appear in the picture.
If you want to superimpose news again manually, press the ≡ button.

3 Subtitles

On some TV channels, subtitles are superimposed synchronously. Select the text page designated for the TV channel in question.



4 Retrieval of hidden texts

Some text pages contain results of television university exercises, answers to quiz questions, or VPS times.
To call up hidden text, press the ≡? button once, to conceal it again, press the ≡? button once more.

5 Double character height

Repeatedly pressing the ≡↕ button will cause the character height of the upper and lower half pages to be doubled alternately.
When the ≡– button is pressed, the complete page appears with standard character height.

6 Page selection in the television picture

In order to bridge the (sometimes lengthy) waiting times when searching for text pages, you can also perform every page selection while the television picture appears on the screen. To do this, press the ≡X button. ≡X display will appear in the television picture. This indicates that the Projection TV is still in text mode.
If you select a text page, only the page selection display will be shown at the top left of the screen at first. Only after reception of the page will the complete header line appear again.
In order to switch back to the text page, press the ≡ button in each case.

7 Time indication

Press the ⊕ button. Input indication will appear for a few seconds on the screen. Press it again while the input indication is on display to indicate present time in the corner of the screen.
Time indication disappears in several minutes.

NOTES:

- *The current time is only visible when the selected TV program is broadcasting Teletext.*
- *TELETEXT functions do not operate immediately after turning on the power.*
  Several seconds are required for preparation.

TROUBLESHOOTING

Please check the following chart and try the suggested solutions before consulting a PIONEER authorized service center.
Often you can fix the problem by making a simple adjustment on the Projection TV. Faulty connections may be to blame, or it may be another piece of equipment that is causing the trouble.

SYMPTOM	POSSIBLE CAUSE AND SUGGESTED SOLUTION
NO PICTURE	AC power cord is not plugged into the wall socket. **Plug in the AC power cord.** Power switch is off. **Turn on the power switch on the Projection TV, or turn on using the remote control unit.** Selected video signal source is not connected to input jacks, or source unit (VCR, etc.) is not turned on or is not providing a signal. **Check connections and source unit operation.**
COLOR IS WASHED OUT	Color value is too low. **Use PICTURE button and adjust buttons to increase (COLOR) value.** Brightness value is too high. **Use PICTURE button and adjust buttons to reduce (BRIGHT) value.**
COLOR TINT IS WRONG	Tint value is too high or low. **Use PICTURE button and adjust buttons to adjust (TINT) value.**
STATIC IN TV PICTURE	Interference from motor vehicles, neon signs, etc. **Try changing the height or direction of the TV antenna. Move the antenna away from the source of interference.**
GHOSTING ON SCREEN	This "multipath" distortion is caused when the TV signal is received along two paths, directly and after being reflected from tall buildings, mountains or other obstacles. Strong winds may have changed the direction of the TV antenna. **Try changing the height or direction of the antenna. An antenna with better directional characteristics may be required.**
COLORED STRIPES ON SCREEN	Interference from other radio or TV signals. **Try changing the height or direction of the antenna. Try changing to a coaxial antenna cable. Coaxial cable is shielded to minimize pickup of interfering signals.**
COLORED EDGES ON IMAGES	Color convergence needs adjustment. **Tune in a channel, select CONVERGENCE from among the menu items and adjust using the convergence controls on the remote control unit. (See page 27 for details.)**
UNCLEAR PICTURE	Connections are loose or cables are damaged. **Check connections and try using new cables.** Antenna may be damaged. **Check antenna.**
POOR PICTURE OR COLOR QUALITY	Interference from a nearby loudspeaker or other source of magnetism. **Move source of interference away from the Projection TV.**
NO SOUND	Rear panel SPEAKER SELECTOR is set to EXT, but external loudspeakers are not connected. **Set selector to INT.**
NO ON-SCREEN CHANNEL OR OTHER DISPLAY	Strong light striking the remote control sensor may cause the internal microcomputer to malfunction. **Change the position of the Projection TV or change the lighting so that the sensor is not exposed to strong light sources.**

- Abnormal functioning of this Projection TV may be caused by lightning, static electricity, or other external interference. To restore normal operation, turn the power off and then on again, or unplug the AC power cord and then plug it in again.
- With some VCRs, when the VCR is not in play mode, the screen sometimes fluctuates. This is not a malfunction.
- The superimposed characters and TEXT characters may slightly jitter. This is not a malfunction.

CARE OF YOUR PROJECTION TV

DO NOT:

- Do not use strong cleansers, solvents, polishes or chemically treated cloths to clean the screen or cabinet.
- Do not touch or scratch the screen.
- Do not fasten or place rubber or vinyl items on the Projection TV.
- Do not use tape on the Projection TV.
- Do not put any object on the Projection TV.

DO:

- Use a soft cloth to dust the screen and cabinet.
- If necessary, unplug the Projection TV and wipe with a soft cloth moistened with warm water (and mild soap if dirt has built up). Dry with a soft, dry cloth.
- Treat the screen with care to avoid scratches or damage.
- Ask your local dealer to clean the interior of the Projection TV if maximum picture brightness decreases. This may be caused by dust buildup inside.

TV CHANNEL SELECTION

Table A-1/2

Channel designation	Entry number	Transmission frequency (MHz)	Remarks
	1		
2	2	48.25	W.Europe
3	3	55.25	
4	4	62.25	
5	5	175.25	
6	6	182.25	
7	7	189.25	
8	8	196.25	
9	9	203.25	
10	10	210.25	
11	11	217.25	
12	12	224.25	
A	13	53.75	Italy
B	14	62.25	
C	15	82.25	
D	16	175.25	
E	17	183.75	
F	18	192.25	
G	19	201.25	
H	20	210.25	Europe
21	21	471.25	
22	22	479.25	
23	23	487.25	
24	24	495.25	
25	25	503.25	
26	26	511.25	
27	27	519.25	
28	28	527.25	
29	29	535.25	
30	30	543.25	
31	31	551.25	
32	32	559.25	
33	33	567.25	
34	34	575.25	
35	35	583.25	
36	36	591.25	
37	37	599.25	
38	38	607.25	
39	39	615.25	
40	40	623.25	
41	41	631.25	
42	42	639.25	
43	43	647.25	
44	44	655.25	
45	45	663.25	
46	46	671.25	
47	47	679.25	
48	48	687.25	
49	49	695.25	
50	50	703.25	

Table A-2/2

Channel designation	Entry number	Transmission frequency (MHz)	Remarks
51	51	711.25	Europe
52	52	719.25	
53	53	727.25	
54	54	735.25	
55	55	743.25	
56	56	751.25	
57	57	759.25	
58	58	767.25	
59	59	775.25	
60	60	783.25	
61	61	791.25	
62	62	799.25	
63	63	807.25	
64	64	815.25	
65	65	823.25	
66	66	831.25	
67	67	839.25	
68	68	847.25	
69	69	855.25	
70	70	863.25	Belgium
71	71	47.25	
X	72	69.25	
Y	73	76.25	
Z	74	83.25	
Z+1	75	90.25	
Z+2	76	97.25	
U1	77	226.25	Belgium, Cable
U2	78	234.25	
U3	79	242.25	
U4	80	250.25	
U5	81	258.25	
M1/7	82	104.25	
M2/7	83	111.25	
M3/7	84	118.25	
M4/7	85	125.25	
M5/7	86	132.25	
M6/7	87	139.25	
M7/7	88	146.25	
M8/7	89	153.25	
M9/7	90	160.25	
M10/7	91	167.25	
M1/8	92	110.25	
M2/8	93	118.25	
M3/8	94	126.25	
M4/8	95	134.25	
M5/8	96	142.25	
M6/8	97	150.25	
M7/8	98	158.25	
M8/8	99	166.25	

TV CHANNEL SELECTION

Table B-1/2

Channel designation	Entry number	Transmission frequency (MHz)	Remarks
S1	1	105.25	Cable
S2	2	112.25	
S3	3	119.25	
S4	4	126.25	
S5	5	133.25	
S6	6	140.25	
S7	7	147.25	
S8	8	154.25	
S9	9	161.25	
S10	10	168.25	
S11	11	231.25	
S12	12	238.25	
S13	13	245.25	
S14	14	252.25	
S15	15	259.25	
S16	16	266.25	
S17	17	273.25	
S18	18	280.25	
S19	19	287.25	
S20	20	294.25	
S21	21	303.25	
S22	22	311.25	
S23	23	319.25	
S24	24	327.25	
S25	25	335.25	
S26	26	343.25	
S27	27	351.25	
S28	28	359.25	
S29	29	367.25	
S30	30	375.25	
S31	31	383.25	
S32	32	391.25	
S33	33	399.25	
S34	34	407.25	
S35	35	415.25	
S36	36	423.25	
S37	37	431.25	
S38	38	439.25	
S39	39	447.25	
S40	40	455.25	
S41	41	463.25	
S22H	42	315.25	
S24H	43	339.25	
S26H	44	363.25	
S28H	45	387.25	
S30H	46	411.25	
S32H	47	435.25	
S34H	48	459.25	
	49	49.25	Belgium
	50	56.25	Belgium

Table B-2/2

Channel designation	Entry number	Transmission frequency (MHz)	Remarks
	51	63.25	Belgium
	52	174.25	
	53	190.25	
	54	202.25	
	55	218.25	
A	56	45.75	IRELAND
B	57	53.75	
C	58	61.75	
D	59	175.25	
E	60	183.25	
F	61	191.25	
G	62	199.25	
H	63	207.25	
J	64	215.25	
FA	65	47.75	FRANCE
FB	66	55.75	
FC1	67	60.50	
FC	68	63.75	
F1	69	176.0	
F2	70	184.0	
F3	71	192.0	
F4	72	200.0	
F5	73	208.0	
F6	74	216.0	
K4	75	175.25	
K5	76	183.25	
K6	77	191.25	
K7	78	199.25	
K8	79	207.25	
K9	80	215.25	
B	81	116.75	
C	82	128.75	
D	83	140.75	
E	84	152.75	
F	85	164.75	
G	86	176.75	
H	87	188.75	
I	88	200.75	
J	89	212.75	
K	90	224.75	
L	91	236.75	
M	92	248.75	
N	93	260.75	
O	94	272.75	
P	95	284.75	
Q	96	296.75	
	97		
	98		
	99		

Table C-1/2

Channel designation	Entry number	Transmission frequency (MHz)	Remarks
1	1	49.75	China
2	2	57.75	
3	3	65.75	
4	4	77.25	
5	5	85.25	
6	6	168.75	
7	7	176.25	
8	8	184.25	
9	9	192.25	
10	10	200.25	
11	11	208.25	
12	12	216.25	
13	13	471.25	
14	14	479.25	
15	15	487.25	
16	16	493.25	
17	17	503.25	
18	18	511.25	
19	19	519.25	
20	20	527.25	
21	21	535.25	
22	22	543.25	
23	23	551.25	
24	24	559.25	
25	25	607.25	
26	26	615.25	
27	27	623.25	
28	28	631.25	
29	29	639.25	
30	30	647.25	
31	31	655.25	
32	32	663.25	
33	33	671.25	
34	34	679.25	
35	35	687.25	
36	36	695.25	
37	37	703.25	
38	38	711.25	
39	39	719.25	
40	40	727.25	
41	41	735.25	
42	42	743.25	
43	43	751.25	
44	44	759.25	
45	45	767.25	
46	46	775.25	
47	47	783.25	
48	48	791.25	
49	49	799.25	
50	50	807.25	

Table C-2/2

Channel designation	Entry number	Transmission frequency (MHz)	Remarks
51	51	815.25	China
52	52	823.25	
53	53	831.25	
54	54	839.25	
55	55	847.25	
56	56	855.25	
57	57	863.25	
R2	58	59.25	OIRT
R5	59	93.25	
R6	60	175.25	
R7	61	183.25	
R8	62	191.25	
R9	63	199.25	
R10	64	207.25	
R11	65	215.25	
R12	66	223.25	
	67		
	68		
	69		
0	70	46.25	Australia
1	71	57.25	
2	72	64.25	
3	73	86.25	
4	74	95.25	
5	75	102.25	
5A	76	138.25	
6	77	175.25	
7	78	182.25	
8	79	189.25	
9	80	196.25	
10	81	209.25	
11	82	216.25	
1	83	45.25	New Zealand
2	84	55.25	
3	85	62.25	
8	86	203.25	
9	87	210.25	
10	88	217.25	
11	89	224.25	
	90		
	91		
	92		
	93		
	94		
	95		
	96		
	97		
	98		
	99		

Table D-1/2

Channel designation	Entry number	Transmission frequency (MHz)	Remarks
2	1	55.25	U.S.A.
3	2	61.25	
4	3	67.25	
5	4	77.25	
6	5	83.25	
7	6	175.25	
8	7	181.25	
9	8	187.25	
10	9	193.25	
11	10	199.25	
12	11	205.25	
13	12	211.25	
14	13	471.25	
15	14	477.25	
16	15	483.25	
17	16	489.25	
18	17	495.25	
19	18	501.25	
20	19	507.25	
21	20	513.25	
22	21	519.25	
23	22	525.25	
24	23	531.25	
25	24	537.25	
26	25	543.25	
27	26	549.25	
28	27	555.25	
29	28	561.25	
30	29	567.25	
31	30	573.25	
32	31	579.25	
33	32	585.25	
34	33	591.25	
35	34	597.25	
36	35	603.25	
37	36	609.25	
38	37	615.25	
39	38	621.25	
40	39	627.25	
41	40	633.25	
42	41	639.25	
43	42	645.25	
44	43	651.25	
45	44	657.25	
46	45	663.25	
47	46	669.25	
48	47	675.25	
49	48	681.25	
50	49	687.25	
51	50	693.25	

Table D-2/2

Channel designation	Entry number	Transmission frequency (MHz)	Remarks
52	51	699.25	U.S.A.
53	52	705.25	
54	53	711.25	
55	54	717.25	
56	55	723.25	
57	56	729.25	
58	57	735.25	
59	58	741.25	
60	59	747.25	
61	60	753.25	
62	61	759.25	
63	62	765.25	
64	63	771.25	
65	64	777.25	
66	65	783.25	
67	66	789.25	
68	67	795.25	
69	68	801.25	
A-6	69	85.25	US CATV STD
A-5	70	91.25	
A-4	71	97.25	
A-3	72	103.25	
A-2	73	109.25	
A-1	74	115.25	
A	75	121.25	
B	76	127.25	
C	77	133.25	
D	78	139.25	
E	79	145.25	
F	80	151.25	
G	81	157.25	
H	82	163.25	
I	83	169.25	
J	84	217.25	
K	85	223.25	
L	86	229.25	
M	87	235.25	
N	88	241.25	
O	89	247.25	
P	90	253.25	
Q	91	259.25	
R	92	265.25	
S	93	271.25	
T	94	277.25	
U	95	283.25	
V	96	289.25	
W	97	295.25	
W+1	98	301.25	
W+2	99	307.25	

Table E-1/2

Channel designation	Entry number	Transmission frequency (MHz)	Remarks
1	1	72.00	US CATV HRC
2	2	54.00	
3	3	60.00	
4	4	66.00	
5	5	78.00	
6	6	84.00	
7	7	174.00	
8	8	180.00	
9	9	186.00	
10	10	192.00	
11	11	198.00	
12	12	204.00	
13	13	210.00	
A	14	120.00	
B	15	126.00	
C	16	132.00	
D	17	138.00	
E	18	144.00	
F	19	150.00	
G	20	156.00	
H	21	162.00	
I	22	168.00	
J	23	216.00	
K	24	222.00	
L	25	228.00	
M	26	234.00	
N	27	240.00	
O	28	246.00	
P	29	252.00	
Q	30	258.00	
R	31	264.00	
S	32	270.00	
T	33	276.00	
U	34	282.00	
V	35	288.00	
W	36	294.00	
AA	37	300.00	
BB	38	306.00	
CC	39	312.00	
DD	40	318.00	
EE	41	324.00	
FF	42	330.00	
GG	43	336.00	
HH	44	342.00	
II	45	348.00	
JJ	46	354.00	
KK	47	360.00	
LL	48	366.00	
MM	49	372.00	
NN	50	378.00	

Table E-2/2

Channel designation	Entry number	Transmission frequency (MHz)	Remarks
OO	51	384.00	US CATV HRC
PP	52	390.00	
QQ	53	396.00	
RR	54	402.00	
SS	55	408.00	
TT	56	414.00	
UU	57	420.00	
VV	58	426.00	
WW	59	432.00	
XX	60	438.00	
YY	61	444.00	
ZZ	62	450.00	
AAA	63	456.00	
BBB	64	462.00	
CCC	65	468.00	
A-6	66	84.00	
A-5	67	90.00	
A-4	68	96.00	
A-3	69	102.00	
A-2	70	108.00	
A-1	71	114.00	
W+3	72	313.25	US CATV STD
W+4	73	319.25	
W+5	74	325.25	
W+6	75	331.25	
W+7	76	337.25	
W+8	77	343.25	
W+9	78	349.25	
W+10	79	355.25	
W+11	80	361.25	
W+12	81	367.25	
W+13	82	373.25	
W+14	83	379.25	
W+15	84	385.25	
W+16	85	391.25	
W+17	86	397.25	
W+18	87	403.25	
W+19	88	409.25	
W+20	89	415.25	
W+21	90	421.25	
W+22	91	427.25	
W+23	92	433.25	
W+24	93	439.25	
W+25	94	445.25	
W+26	95	451.25	
W+27	96	457.25	
W+28	97	463.25	
W+29	98	469.25	
	99		

SPECIFICATIONS

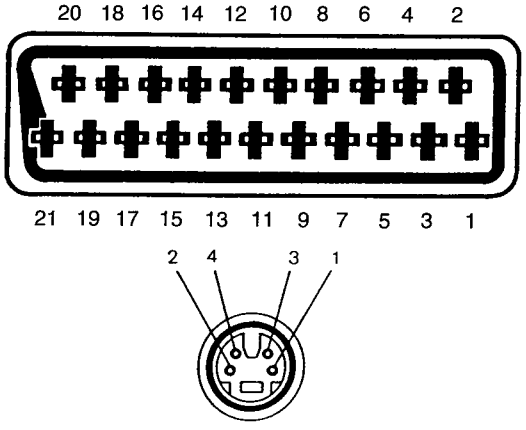
DISPLAY SECTION

Reception system ..... PAL, SECAM, NTSC, NTSC 4.43
Screen size ..... 40"
CRT ..... 7" CRT x3
Actual viewing angle ..... Horizontal H = 140°
Vertical V = 50°
Input terminals ..... 2 Scarts, 2 AV Cinch, 2 Y/C plug
Output terminals ..... Video output, audio output (Recording)
Input signal .....Video signal: 1.0 Vp-p ±3 dB

Input impedance ..... Video input: 75 ohms ±10%
Audio input: 10 kohms or more
Input signal polarity ..... Synchronized negative
Output terminal signal ratings:
Output terminals ..... Video signal: 1 Vp-p (75 ohms load)
Audio signal: 500 mV rms (100% modulation)
Output impedance ..... Video output: 75 ohms ± 10%
Audio output: Less than 1 kohms

TUNER SECTION

Circuit type ..... Video signal detection:
LLD detection
PLL Digital Synthesizer system
Audio multiplex: CCIR system
NICAM, MTS
Reception channels .....VHF; CH2 – CH12, UHF; CH21 – CH69
CATV; CH E2 - CH S20,
Italy; CH A - CH H2
New Zealand; CH1 - CH11
OIRT; R1 - R12
China; CH1 - CH57
Australia; CH0 - CH11
New France; FB - F6
US; CH2 - CH69
US CATV STD; CH2 - W+29
US CATV HRC; CH1 - A-1
Antenna terminal ..... ANTENNA terminal,
TV coaxial 75 ohms UNBAL



AMPLIFIER SECTION

Tone control ..... BASS, TREBLE
Built-in speaker system ..... 16 cm (6-1/2 in) mid-low range ×2
4 cm (1-5/8 in) high range ×2
External speaker impedance .....8 -16 ohms

ELECTRICAL SECTION, MISCELLANEOUS

Power requirements ..... AC220 - 240 V, 50/60 Hz
Power consumption ..... 300 W
External dimensions..... 1031 (W) × 615 (D) × 1188 (H) mm
Weight of main unit ..... 68 kg

WIRELESS REMOTE CONTROL UNIT

Operation System: Infrared remote control system
Power source: Two IEC R6 (UM-3, "AA") 1.5 V dry cell batteries

ACCESSORIES

Operating instructions 1
Remote control unit 1
IEC R6 (UM-3, "AA" size) dry cell batteries 2
Caution card 1
Warrant card 1
Circuit diagrams (German and Italian models only) 4
Power cord 1

NOTE:
Specifications and design subject to possible modifications without notice due to improvements.

Assignment of connections for EURO-AV sockets

EURO-AV1	EURO-AV2
1 Audio output B	1 Audio output B
2 Audio input B	2 Audio input B
3 Audio output A	3 Audio output A
4 Audio ground	4 Audio ground
5 Blue ground	5 —
6 Audio input A	6 Audio input A
7 Blue	7 —
8 Switching voltage	8 —
9 Green ground	9 —
10 —	10 —
11 Green	11 —
12 —	12 —
13 Red ground	13 —
14 —	14 —
15 Red or chroma signal with S-Video	15 Chroma signal S-Video
16 Blanking signal	16 —
17 Video output ground	17 Video output ground
18 Video input ground	18 Video input ground
19 Video output	19 Video output
20 Video input or luminance with S-Video	20 Video input or luminance with S-Video
21 Screening or ground	21 Screening or ground

Assignment of connections for S-VIDEO socket

1 Ground	3 Luminance
2 Ground	4 Chroma signal

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